User's Manual

Version 1.00 - February 2011

GX.

Fill and Key Playout Server

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1. Introduction

1.1 GX SERVER PRESENTATION

1.1.1 GENERAL DESCRIPTION

The GX server is a 1U HD/SD fill and key playout server.

The source graphic and audio files can be imported from the built-in DVD drive, via the USB or eSata ports on the GX server, or via an Ethernet connection to a PC. They will be imported in their original format, then transcoded into GX clips on the GX server.

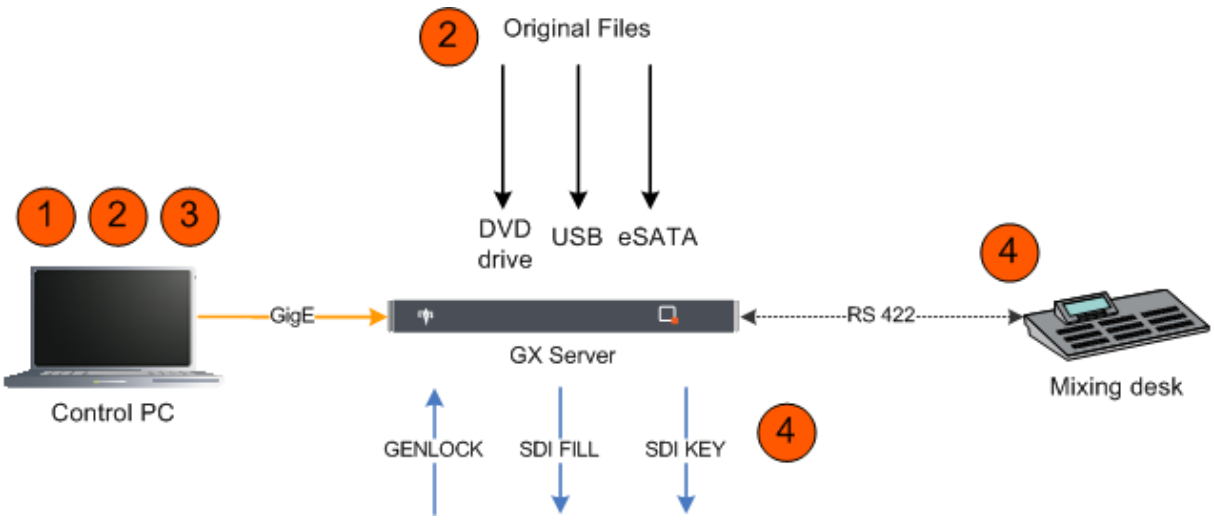
The GX clips can be published to an external control device through a standard protocol like VDCP, and be played back under the control of these protocols on 2 SDI outputs (key and fill).

The GX server allows the synchronized playout of uncompressed fill and key GX files, and embedded audio. The server is able to handle separate video nested loops, with user-defined loop points.

1.1.2 GENERAL ARCHITECTURE AND WORKFLOW

SCHEMA

The following schema provides an overview on the system architecture and general workflow for the import of original files, the creation and the playout of GX clips on the GX server. The schema is described below.



DESCRIPTION

When the GX server is switched on, the users can control the GX server from a remote PC via a web-based application using a local network connection.

1. Users configure the server parameters from the web interface on the client PC.
2. Users import the original files (fill and key, audio) to the Raw Materials drive (internal HDD drive) using one of the following methods:
   - Web interface on the client PC
   - DVD drive on the GX server
   - USB or eSATA connectors on the GX server
3. Users associate the original files, define synchronization parameters, and upload them (switch them online) as GX clips onto the GX Clips drive (Solid State Disk drive).

   The files are then ready for playout.
4. When users start the GX server from the web interface, the GX clips that correspond to the requested video standard are published to the switcher.

   The operator can then select the requested GX clips and play them out using the switcher. The switcher and the GX server communicate via a RS 422 link, by means of a control protocol like VDCP.

Important

The use of the web interface and the transcode operations are not possible while the GX server is started.

2. GX server Overview

2.1 CHAPTER OVERVIEW

What about … ?	Section	Page
Hardware Specifications	2.2.1	Page 4
Chassis	2.2.2	Page 4
Front Panel	2.2.3	Page 6
Rear Panel	2.2.4	Page 6
Safety, Compliance, and Operating Conditions	2.2.5	Page 7
Input Video Sequences	-	Page 9
Input Audio Sequences	-	Page 9
GX Clips	2.3.2	Page 9
Supported Video Standards	2.3.3	Page 9
Controller	2.3.4	Page 10

2.2 HARDWARE COMPONENTS

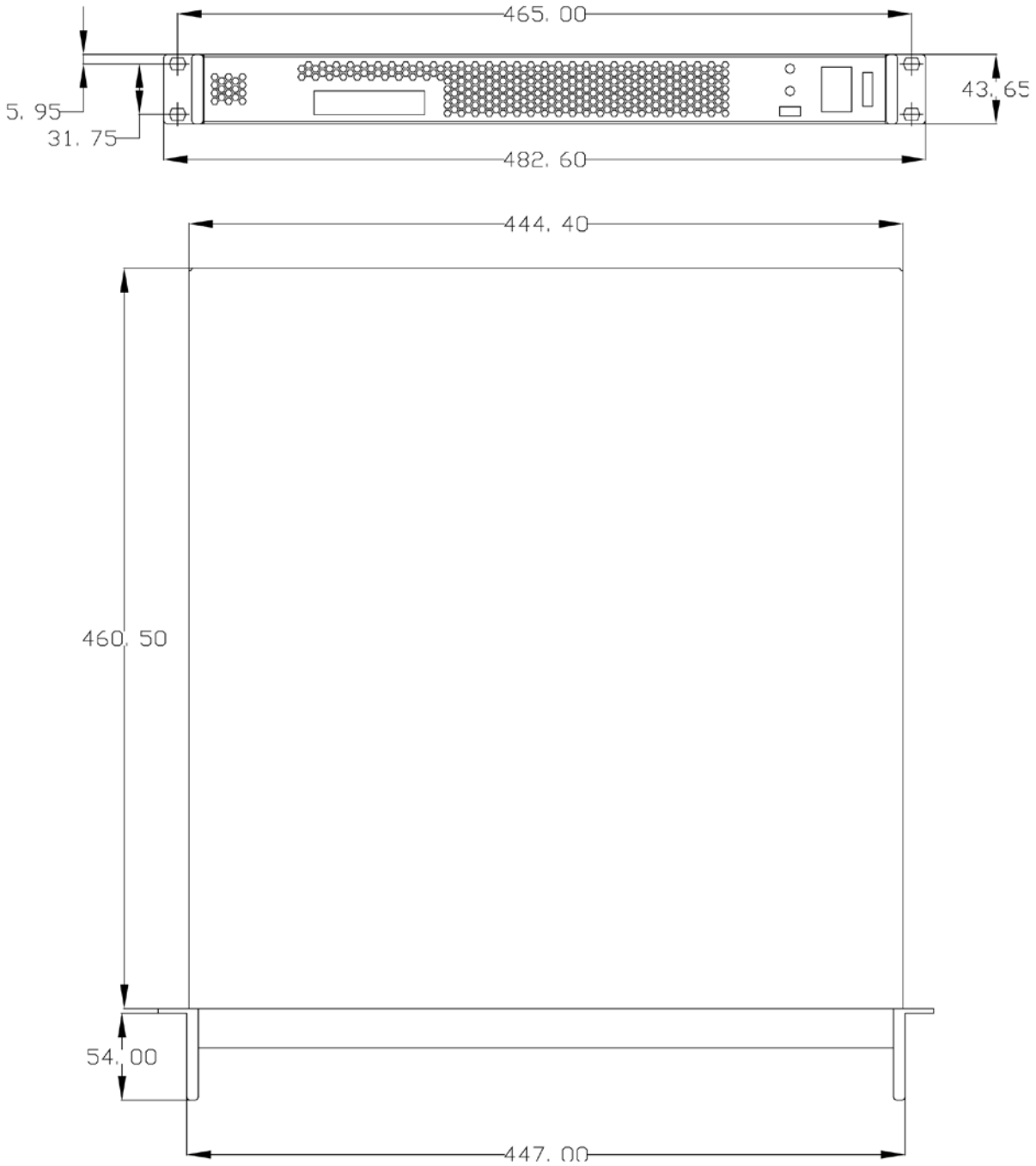
2.2.1 HARDWARE SPECIFICATIONS

The following table gives an overview on the hardware specifications of the GX server:

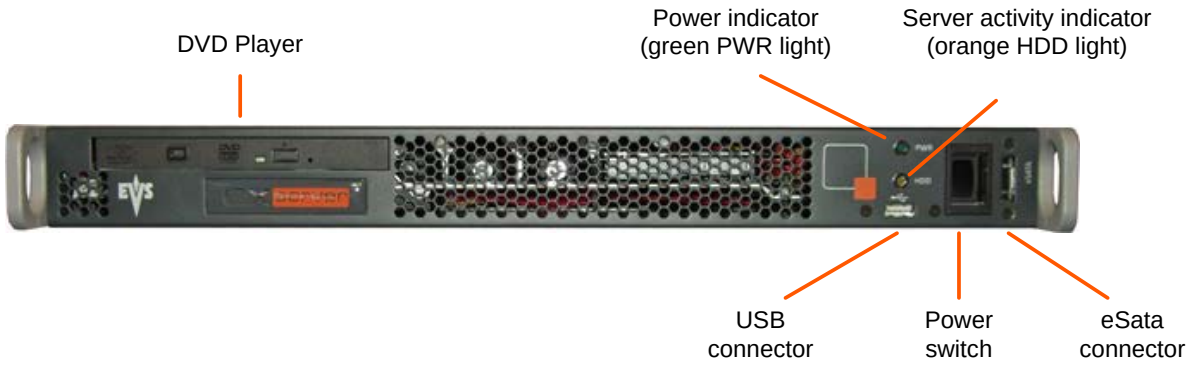
Component	Specification
CPU	Core i7
RAM	3 GB
Hard disk drive (Raw Materials drive)	400GB SATA
Solid-state drive (GX Clips drive)	2 x 128GB SSD
Playout board	PCX3

2.2.2 CHASSIS

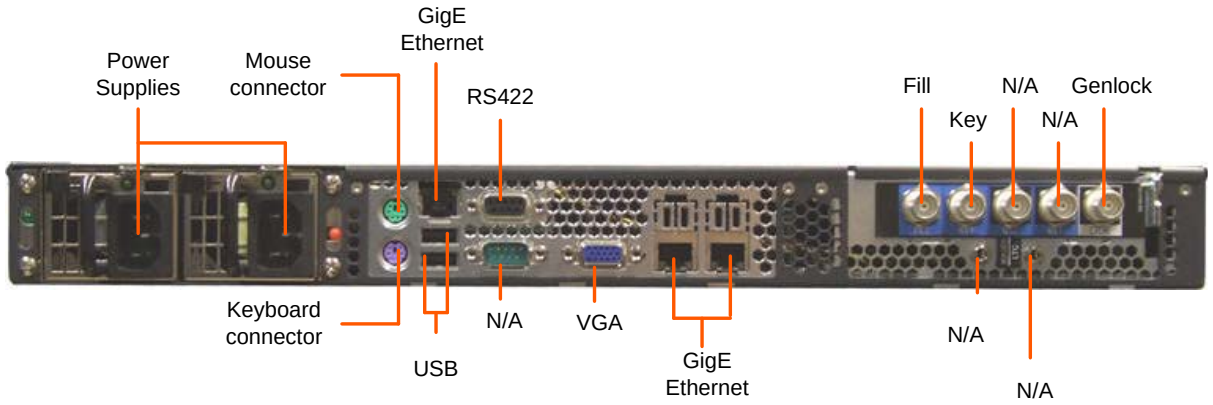
The following picture shows the 1U GX server. The schemas below provide full information on dimensions.


465. 00
5. 95
31. 75
43. 65
482. 60
444. 40
460. 50
54. 00
447. 00

2.2.3 FRONT PANEL



2.2.4 REAR PANEL



Note

The two connectors labeled IN1 and IN2 (on the right of the Fill and Key connectors) are not currently used.

2.2.5 SAFETY, COMPLIANCE, AND OPERATING CONDITIONS

CE MARKING

The CE marking is affixed to indicate compliance with the following directives:

- 89/336//EEC of 3 May 1989 on the approximation of the laws of the Members States to electromagnetic compatibility.
- 73/23/EEC of 19 February 1973 on the harmonization of the laws of the Members States relating to electrical equipment designed for use within certain voltage limits.
- 1999/5/EC of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

POWER SUPPLY

This equipment is equipped with AUTOSWITCH and hot-swappable power supply.

Connection to supply: Pluggable equipment Type A (EN60950 §1.2.5): Equipment which is intended for connection to the building power supply wiring via a non-industrial plug and socket-outlet or a non-industrial appliance coupler or both. Correct mains polarity must always be observed. Do not use reversible power plugs with this equipment.

Class of equipment: Class 1 equipment (EN60950 § 1.2.5): electric shock protection by basic insulation and protective earth.

Rated voltage: 100 to 240Vac (single phase)

Rated frequency: 47-63 Hz

Related Current: 6 A (100 to 120 Vac range) 3 A (220 to 240 Vac range)

Input connector: CEE22/IEC 320 3-pin male receptacle

Important

The protective earth must be connected to the ground before powering up the unit.

ENVIRONMENTAL CONDITIONS

Temperature: 0°C to + 50°C (32°F to 104°F) ambient with free air flow

Relative humidity: 0% to 90% (non-condensing)

Cooling requirements: Forced air cooling air flow from front to back

Handling/movement: Designed for fixed use when in operation

Storage and transportation temperature: 0°C to +70°C (32°F to 158°F)

Storage and transportation relative humidity: 0% to 90% (non-condensing)

HOT-SWAPPABLE POWER SUPPLIES

Both power supplies are hot-swappable.

The second power supply should be connected to mains to allow automatic power switching to the second power supply in the event that the first one fails.

GROUNDING

Ensure the disk recorder unit is properly grounded at all times to avoid electrical shock hazard.

VENTILATION & RACK MOUNTING

Adequate ventilation is obviously required for optimum performance. As a result of this consideration, ensure no other equipment is located close to the mainframe.

Important

- Remember that fans are used to air cool the equipment and protect it from overheating.
- Do not block fans intakes during operations.

2.3 SERVER MAIN SPECIFICATIONS

2.3.1 INPUT FILES

The original sequences are imported and stored onto the Raw Materials drive (HDD).

INPUT VIDEO SEQUENCES

The following static files with embedded alpha channels are supported in release 1.0 of the GX server:

- Combined fill & key Targa sequences, i.e. TGA files.

  Uncompressed TGA files or RLE compressed TGA files are supported.

- Combined fill & key Tiff sequences, i.e. TIFF files.

  Uncompressed TIFF files or LZW compressed TIFF files are supported.

The file formats that include several video frames in a single file are currently not supported.

INPUT AUDIO SEQUENCES

The supported input audio files are stereo WAV files of 16-bit depth, 48 KHz, including from 2 to 16 channels.

2.3.2 GX CLIPS

The GX clips are created in the database. The A/V material is stored onto the GX Clips drives (SSD):

- The internal video files are stored in internal uncompressed formats, in the requested video standard.
- The internal audio files are in raw 24 bits samples (per channel) format. They can contain up to 16 embedded audio channels.

2.3.3 SUPPORTED VIDEO STANDARDS

The fill & key GX clips must have been prepared in one of the video standards described in the table below:

Num	Common name	GX server name	Frame rate	Field rate	Resolution
0	SD NTSC (DF or NDF)	525i60	29.97 fr/s	59.94 fl/s	720 x 480
1	SD PAL	625i50	25 fr/s	50 fl/s	720 x 576

Num	Common name	GX server name	Frame rate	Field rate	Resolution
2	1080i60 (DF or NDF)	1080i60	29.97 fr/s	59.94 fl/s	1920 x 1080
3	1080i50	1080i50	25 fr/s	50 fl/s	1920 x 1080
4	720p60 (DF or NDF)	720p60	59.94 fr/s	59.94 fl/s	1280 x 720
5	720p50	720p50	50 fr/s	50 fl/s	1280 x 720

2.3.4 CONTROLLER

The following communication protocols between the GX server and the switcher are supported for playout:

- VDCP

2.4 CLIENT CONTROL PC

The GX web interface is running on Microsoft Silverlight on the client PC. If the Silverlight framework is not installed on the client PC, users are requested to install it when they launch the GX web interface for the first time.

The system requirements for Microsoft Silverlight are the following on Windows or Mac operating systems:

WINDOWS

- Operating System: Windows 7,Windows Vista; Windows XP Service Pack 2
- Intel® Pentium® III 450MHz or faster processor (or equivalent)
- 128MB of RAM

MAC OS

- Operating System: Apple Mac OS X 10.4.8 or above
- Intel Core™ Duo 1.83GHz or faster processor
- 128MB of RAM

3. GX Server Setup

3.1 CHAPTER OVERVIEW

What about … ?	Section	Page
Cabling	3.2	Page 11
GX Server Installation and Ghost Restore	3.3.1	Page 13
Switching on versus Starting the Server	3.3.2	Page 13

3.2 CABLING

The GX server has to be cabled as shown on the schema below to allow:

- Users to import video sequences and audio files and to create the GX clips on the server from the client PC.
- Operators to control the playout via the switcher.

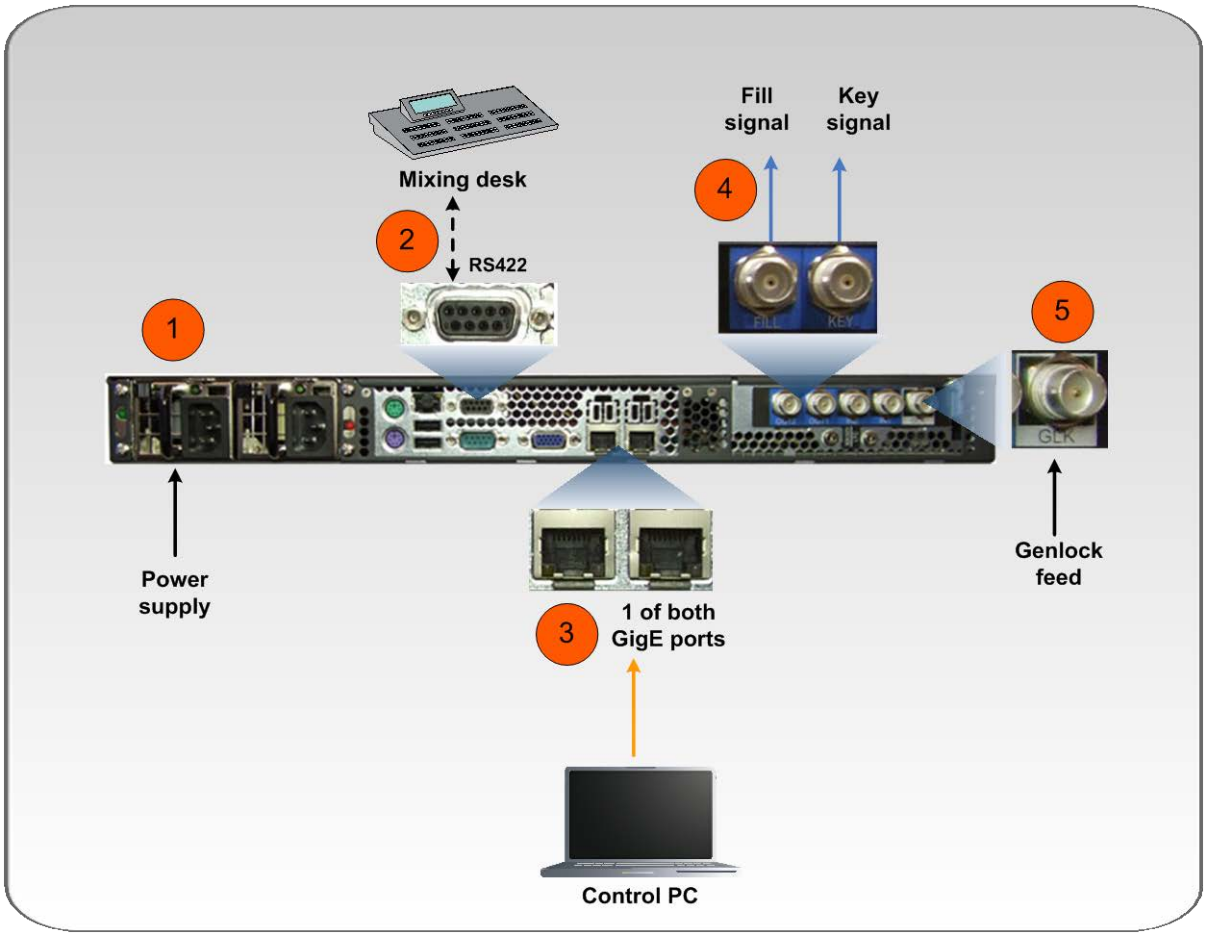
Important

The GX server is connected to the protocol clients through the RS422 port. Once the GX clips are ready for playout, the GX server however needs to be manually started from the GX web interface for the communication between the GX server and the protocol client to be established.

For more information on starting the GX server, refer to the sections 3.3.2 'Switching on versus Starting the Server', on page 13 and 4.2.5 'Starting the GX server', on page 19.

The schema below shows how the GX server needs to be cabled before switching it on. The table hereafter briefly describes the connections highlighted on the schema:

#	Description
1.	Connect the power supply to mains. Connect the second power supply to allow automatic power switching in case of failure.
2.	Connect the VDCP client to the RS422 port on the GX server.
3.	Connect the GX server to the local area network via one of the GigE ports. This will allow users to connect remotely to the GX server via the GX web interface.
4.	Connect the KEY and FILL connectors to the video equipment that will perform the keying of the GX outputs.
5.	Connect the Genlock feed to the GLK connector to make sure the video signals from the GX server are synchronized in your setup.



The mouse, keyboard and VGA connectors at the back of the server also allow users to directly connect to the server, mainly to perform tests and checks.

3.3 INSTALLATION

3.3.1 GX SERVER INSTALLATION AND GHOST RESTORE

The EVS staff will perform the initial installation of the GX server before the server is delivered.

When the server is installed, a ghost image of the installed GX server is created in the Restore folder (R: drive).

If you need to restore the ghost, please contact EVS support.

3.3.2 SWITCHING ON VERSUS STARTING THE SERVER

When the server is properly cabled, you switch it on using the power switch on the front panel. Switching on the server does not mean starting the server.

Once the server is switched on, you still need to start it to allow external controllers to connect to the GX server and to access the GX clips for playout. For more information, refer to the section 4.2.5 'Starting the GX server', on page 19.

Before you can start the server, you need to make sure that:

- The server is properly configured for the external controllers to access the GX clips.
- The GX clips have been created on the GX server, and are online, ready for playout.

All these steps are covered in the Installation and Operation sections.

4. GX Web Interface

4.1 CHAPTER OVERVIEW

A dedicated web application, called the 'GX web application', makes it possible create and prepare the GX clips from a remote PC. Then you can upload the GX clips on the GX server, and eventually start the GX server.

This chapter gives an overview on the user interface of the web application, and on the general workflow you will follow. It contains the following sections:

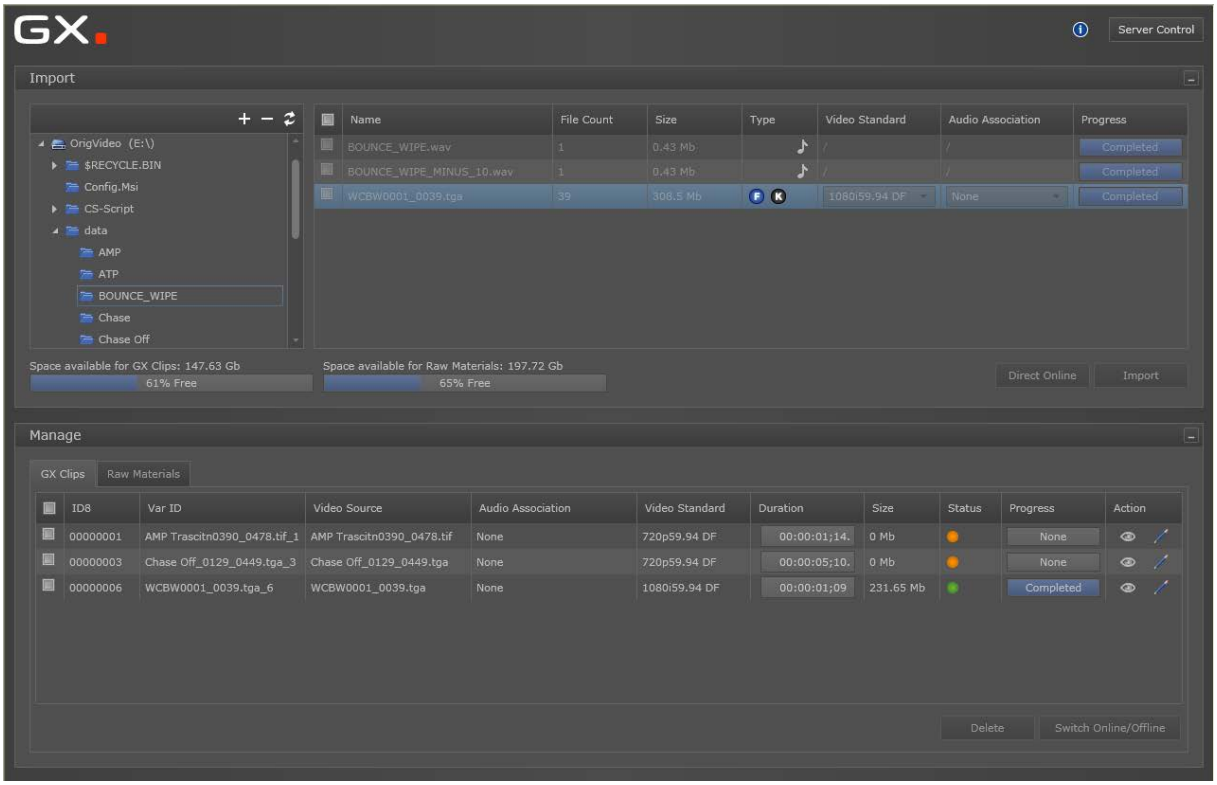
What about … ?	Section	Page
Accessing the GX Server from a Remote PC	4.2.1	Page 15
Server Control Window	4.2.2	Page 16
Server Settings	4.2.3	Page 16
Server Status Information	4.2.4	Page 18
Starting the GX server	4.2.5	Page 19
Import Area	4.3.2	Page 21
Manage Area	4.3.3	Page 22
Server Control Button	4.3.4	Page 23
Rules for Row Selection	4.3.5	Page 24

4.2 SERVER CONFIGURATION AND START

4.2.1 ACCESSING THE GX SERVER FROM A REMOTE PC

You can access the GX server by typing the server host name or IP address in a web browser on a remote PC whose GigE connection is set up to communicate with the GX server.

When you access the GX web interface, the following main window is displayed:

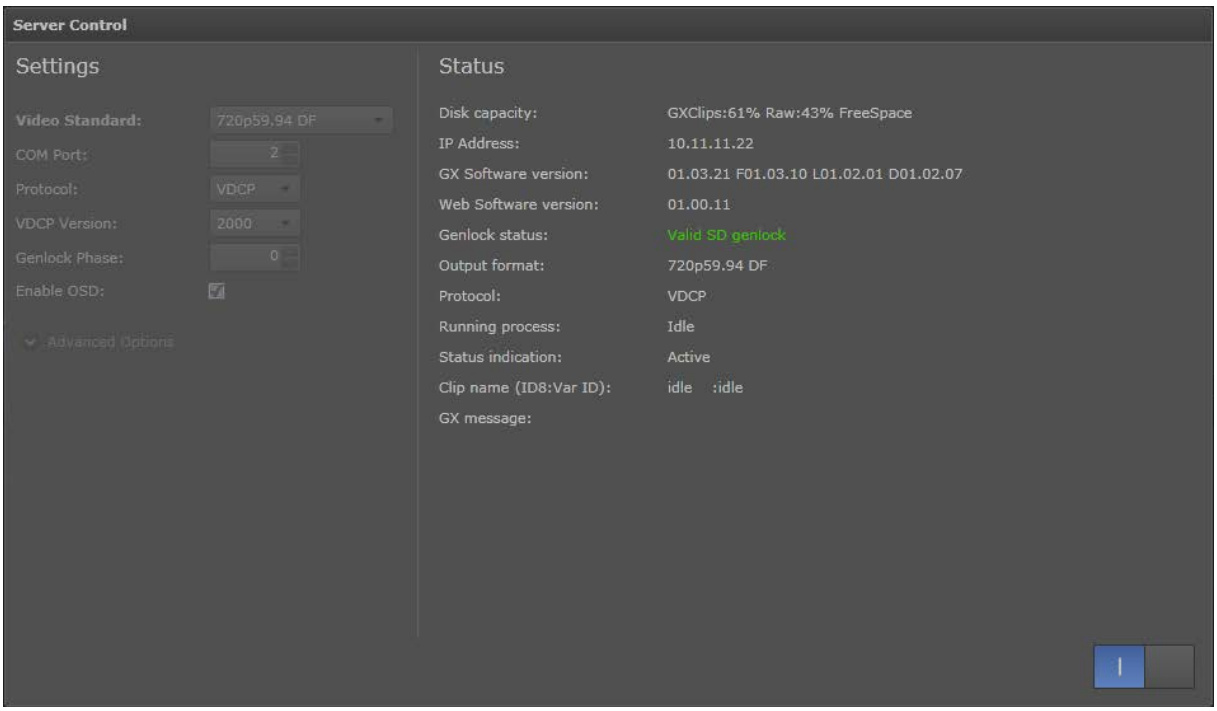


4.2.2 SERVER CONTROL WINDOW

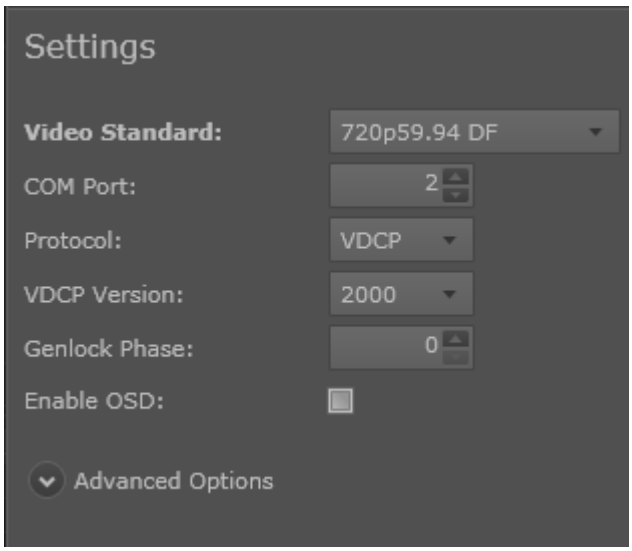
You can configure and start the GX server from the Server Control window.

In the top right corner of the main window, the **Server Control** button gives you access to the Server Control window where you can do the following:

- Start the GX server
- Define the GX server settings
- View GX server status information



4.2.3 SERVER SETTINGS

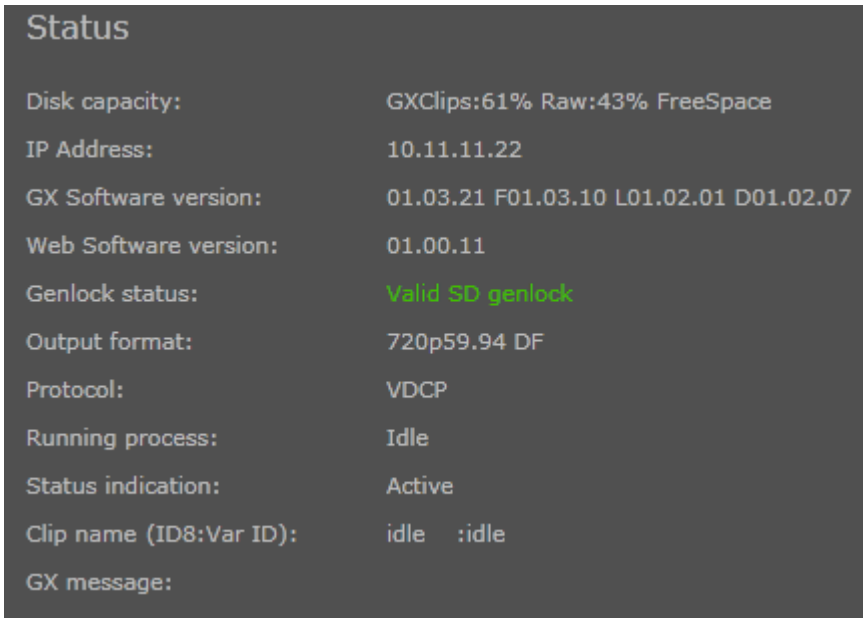


The following settings for the GX server can be defined in the Settings area of the Server Control window:

Setting	Description
Video Standard	Video standard the GX server can run in. The following standards are available: • SD NTSC DF or SD NTSC NDF • SD PAL • 1080i 59.94Hz DF or 1080i 59.94Hz NDF • 1080i 50Hz • 720p 59.94Hz DF or 720p 59.94Hz NDF • 720p 50Hz Any change in the standard is immediately reflected on the output and status screen. When the GX server is started, only GX clips created in the selected video standard will be visible to the protocol clients.
COM Port	Serial port number on the VDCP controller through which the GX server will communicate.
Protocol	Protocol the GX server will use to communicate with the controller. The VDCP protocol is available on the current GX server version.
VDCP Version	Version of the VDCP protocol to be used in communications between the server and the controller. The versions available are the following: '2000', '1998'.
Genlock Phase	Phase of the genlock input on the GX server video board.
Enable OSD	Tick the check box to activate the OSD (status screen) on the SDI output of the GX server.
Advanced Options	The advance options are hidden by default. They allow users to specify which information should be included in the logs. They should only be modified by, or in agreement with the EVS customer support.

4.2.4 SERVER STATUS INFORMATION

The following server status information is displayed on the right side of the Server Control window.



The table below describes the status information fields:

Option	Description
Disk Capacity	Remaining capacity on both Raw Materials and GX Clips drives. It is expressed as a percentage of the total drive capacity.
IP Address	IP address of the network interface card (NIC) that allows the GX server to communicate over the network.
GX Software version	Current version of the GX software.
Web Software version	Current version of the GX web software

Genlock status	Type and quality of genlock.
	• The messages on the genlock quality can be the following:
	  • Valid: Good genlock
	  • Bad (no signal): No genlock signal detected
	  • Bad (mismatch): Genlock signal detected, but not in the correct format
	  If the genlock quality is bad, the genlock information is displayed in red. Otherwise, this is in green.
	• The type can be 'tri-level' or 'blackburst'.

Option	Description
Output format	Currently selected video standard. When the GX server is started, only GX clips created in the selected video standard will be visible to the protocol clients. The value corresponds to the one selected in the **Video Standard** field in the Settings area.
Protocol	Protocol the GX server is currently set to work with
Running process	Activity status on the GX server: • The status is 'IMPORTING' if raw materials are being imported onto the Raw Materials drive. • The status is 'UPLOADING' if GX clips are being uploaded onto the GX Clips drive.
Status indication	GX server status: • The status is 'Not started' when the server is not running. • The status is 'Active' when the GX server has been started and is awaiting commands.
Clip name	Name of the GX clip that has been loaded by the protocol client.
GX message	Error, warning or general message reported by the GX server and displayed on the OSD of the SDI Fill output.

4.2.5 STARTING THE GX SERVER

Important

Users need to start the GX server manually via the **Start Server** button in the web interface when they want GX clips to be made visible to the protocol clients.

HOW TO START AND STOP THE GX SERVER

The GX server can be started and stopped by clicking the switch icon in the bottom right corner of the window:

- To start the GX server, click on O.

  The icon changes from to

- To stop the GX server, click on I.

  The icon changes from to

PRINCIPLES ABOUT STARTING THE SERVER

Once the GX server is switched on, users can connect to and work on the server via the web interface.

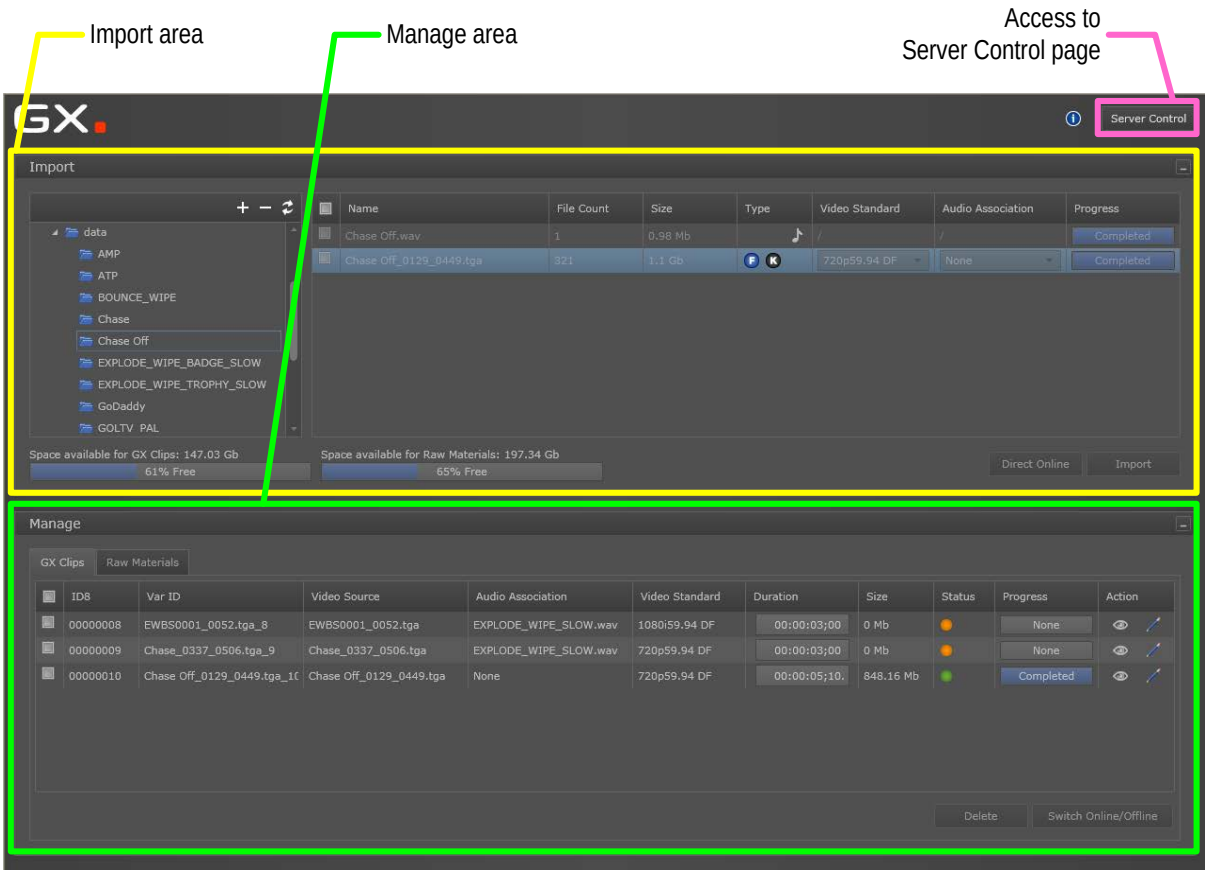
The following principles apply with a GX server:

- **The GX server is not automatically started** when it is switched on.
- **Users need to start the GX server manually via the Start Server button in the web interface** when they want to play out the prepared fill and key clips.
- The GX server will only respond to the commands from the control protocol once the GX server has been started.
- When the GX server is started, it is not possible to import original sequences and/or create GX clips via the web interface until the server is stopped.

4.3 OVERVIEW ON MAIN WINDOW

4.3.1 INTRODUCTION

The main window in the user interface contains two main areas shortly described below:



4.3.2 IMPORT AREA

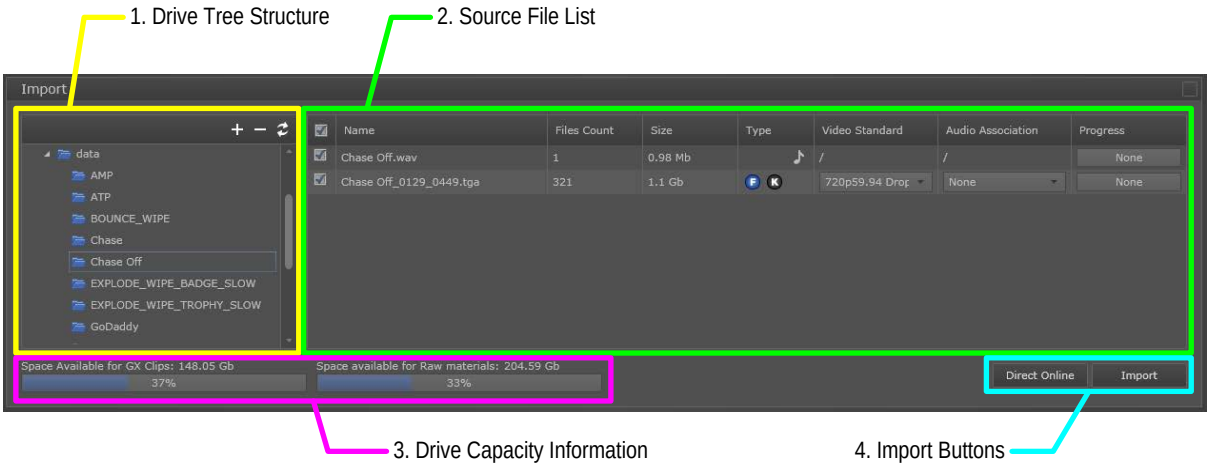
The **Import** area at the top of the main window allows you to perform the following actions:

- Browsing the drives containing the original sequences and selecting the sequences to import
- Importing the sequences either only to the Raw Materials drive (HDD drive), or to the Raw Materials drive and to the GX Clips drive (SSD drive)

In this area, you actually tag the media and create an entry for it in the GX server database.

OVERVIEW

The Import area includes four zones shown in the following schema and described in the table below:



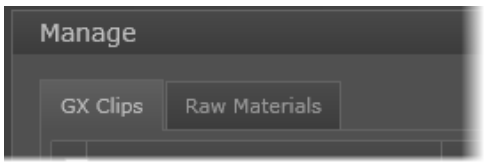
#	Zone Name	Description	See also …
1.	Drive Tree structure	Folder structure of the drives available on the GX server	Section 5.1
2.	Source File list	List of the source files available in the selected drive folder	Sections 5.3.1 & 5.3.2
3.	Drive Capacity information	Information on the space used and available capacity on the Raw Material and GX Clips drives	-
4.	Import buttons	Command buttons for importing the source files selected in the source file list	Sections 5.3.3 & 5.3.4

4.3.3 MANAGE AREA

The Manage area at the bottom of the main window allows you to manage:

- the sequences available on the Raw Materials drive from the Raw Material tab.
- the GX clips from the GX Clips tab.

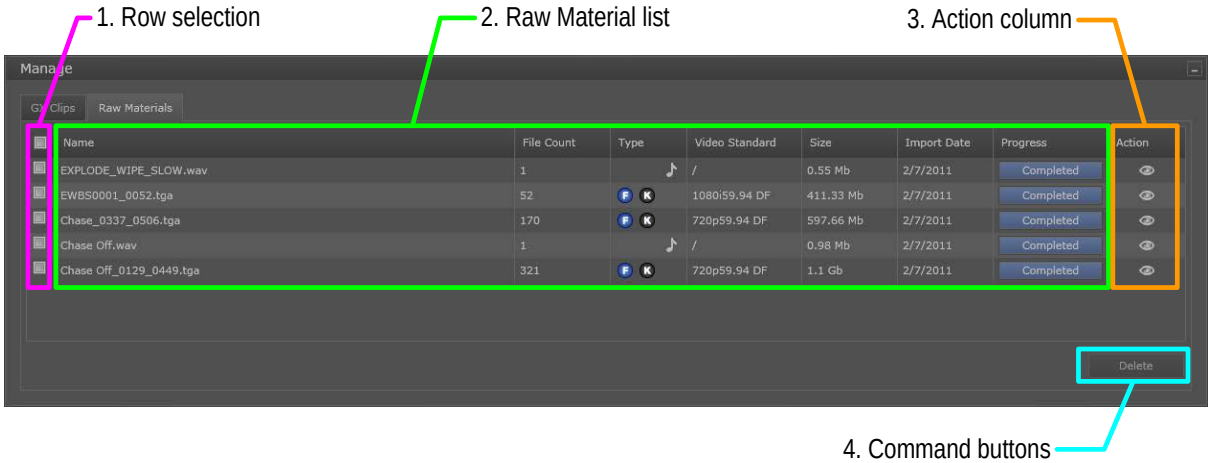
  The GX clips can be offline (only defined in the GX server database) or online (defined in the database and uploaded onto the GX Clips drive).



RAW MATERIAL TAB

The Raw Material tab provides a list of the video sequences and audio files available on the Raw Materials drive. From there, you can manage the original files.

The Raw Material tab includes four zones shown in the following schema and described in the table below.

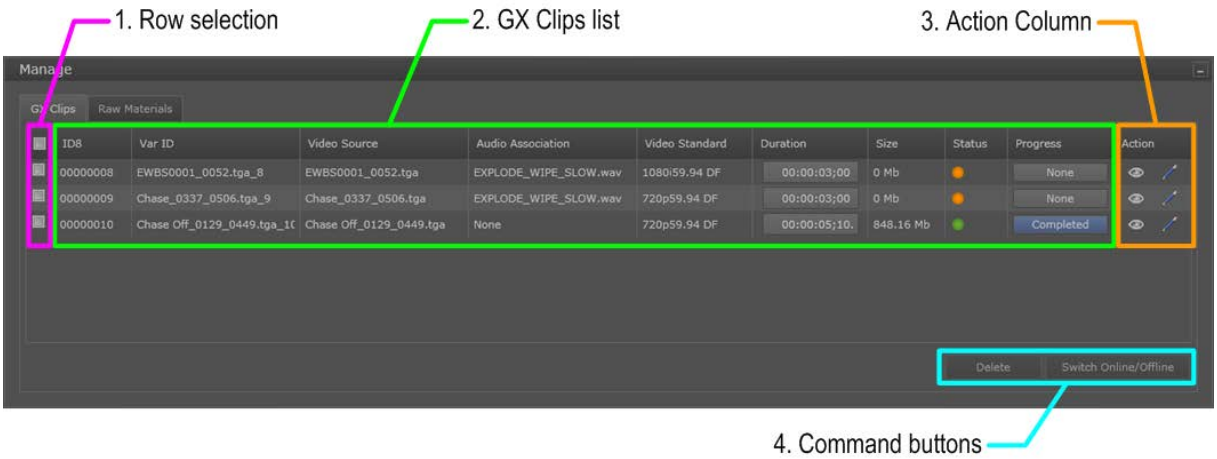


#	Zone Name	Description	See also …
1.	Row selection	Check boxes that allow the selection of files you want to apply a command to.	Section 4.3.5
2.	Raw Material list	List of all the files (video sequences and audio files) available on the Raw Materials drive.	Section 5.3.7
3.	Action column	Command buttons for actions on an individual file.	Section 5.3.7
4.	Command buttons	Command buttons for actions on the selected files.	Section 5.3.8

GX CLIPS TAB

The GX Clips tab provides a list of the GX clips defined in the GX Server database and also uploaded on the GX Clips drive. From there, you can manage the GX Clips.

The GX Clips tab includes four zones shown in the following schema and described in the table below:



#	Zone Name	Description	See also …
1.	Row Selection	Check boxes that allow the selection of files you want to apply a command to.	Section 4.3.5
2.	GX Clips list	List of all GX Clips available on the GX Clips drive, regardless of the server settings defined.	Section 5.4.2
3.	Action column	Buttons to allow the user to edit or preview the related GX clip.	Section 5.5.1
4.	Command buttons	Command buttons for actions on the selected GX clips.	Section 5.4.3 and 5.4.4

4.3.4 SERVER CONTROL BUTTON

In the top right corner of the main window, the **Server Control** button gives you access to the Server Control window. You will find detailed information on this area in the section 4.2.2 'Server Control Window', on page 16.

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4.3.5 RULES FOR ROW SELECTION

The following rules apply for the selection of rows corresponding to source files (in the Import area), raw materials (in the Raw Materials tab) or GX clips (in the GX Clips tab):

- To select an individual row, tick the check box in front of the row.
- To select all rows, tick the check box at the upper check box, which does not correspond to any row.

5. Operation

5.1 CHAPTER OVERVIEW

This chapter explains how you import the raw material onto the GX server, and prepare the GX clips for playout. It contains the following sections:

What about … ?	Section	Page
Drive Tree Structure	5.2.1	Page 27
Drive Display	5.2.2	Page 27
Source File List & Fields in the Source File List	5.3.1 & 5.3.2	Page 29
Import Results	5.3.4	Page 30
Display of Imported Elements on the User Interface	5.3.5	Page 32
Raw Materials Tab	5.3.6	Page 33
Fields in the Raw Materials Tab	5.3.7	Page 34
GX Clips Tab	5.4.1	Page 37
Fields in the GX Clips Tab	5.4.2	Page 37
Edit GX Clip Window	5.5.1	Page 42
General Principles About TC Fields on the GX Server	5.5.3	Page 47
General Settings in the Edit GX Clips Window	5.5.4	Page 47
Video Settings in the Edit GX Clips Window	5.5.5	Page 49
Audio Settings in the Edit GX Clips Window	5.5.6	Page 51
Clip Preview in the Edit GX Clip Window	5.5.7	Page 54
Command Buttons in the Edit GX Clip Window	5.5.8	Page 56
GX Clip Duration and Timecodes	5.5.9	Page 57

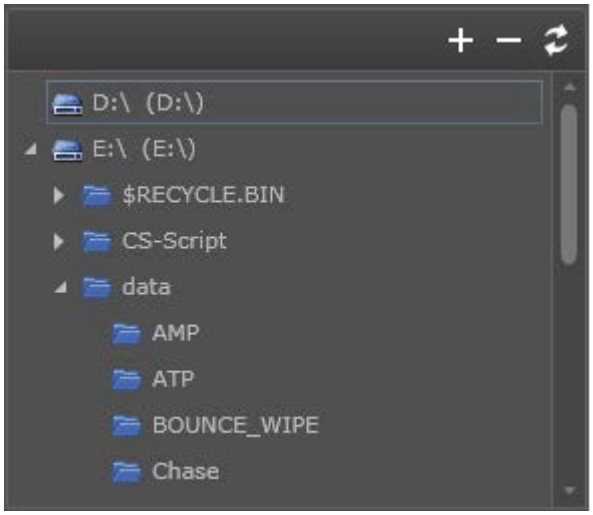
How to ... ?	Section	Page
How to Display Folder Structure and Source Files	5.2.3	Page 27
How to Connect and Disconnect a Network Drive	5.2.4	Page 28
How to Import Files on the GX Server	5.3.3	Page 30
Deleting a File from the Raw Materials Drive	5.3.8	Page 35
Switching GX Clips Online or Offline	5.4.3	Page 39
Deleting GX Clips	5.4.4	Page 41
Editing GX Clips Parameters	5.5.2	Page 44

5.2 MANAGING DRIVES AND FOLDERS

Before selecting and importing the source files, you need to connect and point to the drives that contain the source files.

5.2.1 DRIVE TREE STRUCTURE

The drives and folders that contain the source files are displayed on the drive tree structure (left part of the Import area):



5.2.2 DRIVE DISPLAY

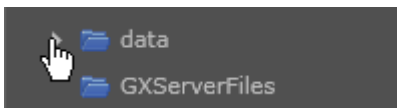
The removable drives connected to the GX server (USB, eSata) and the DVD drives are automatically displayed in the drive tree structure. The drive letter assigned and the drive name are displayed.

You need to manually define the local or network drives to display them in the drive tree structure. You also need to disconnect them manually when you want to hide them.

The Raw Materials drive, which contains the imported files, is automatically displayed in the drive tree structure.

5.2.3 HOW TO DISPLAY FOLDER STRUCTURE AND SOURCE FILES

To view or hide the folder structure below a given driver/folder, click the arrow in front of this driver/folder:



To view the source files available in a given drive or folder, click the drive or folder name:

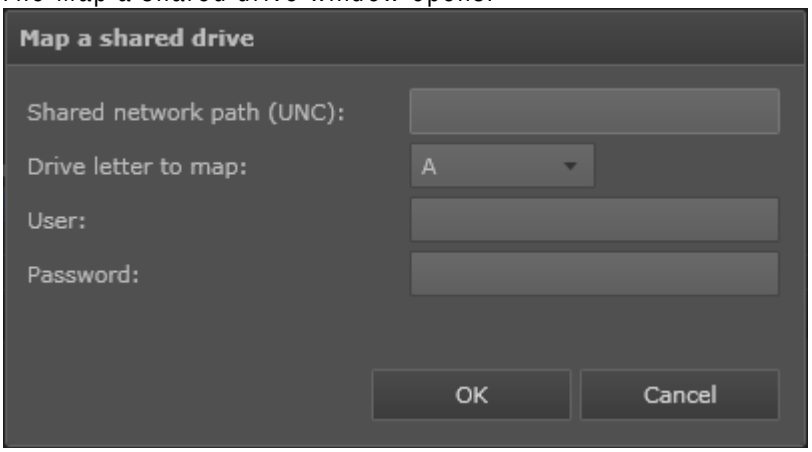
The supported source files (TGA, TIFF, WAV files) included in the folder selected will be displayed on the right hand box in the Import area.

5.2.4 How to Connect and Disconnect a Network Drive

To map a network drive onto the GX server, proceed as follows:

1. Click the + symbol at the top of the drive tree structure.

   The Map a shared drive window opens.



2. Type the full path to the folder to be mapped in the **Network Path** field, using the following pattern: `\\[ComputerName]\[FolderName]`.
3. Select a drive letter to be associated to this mapped drive.
4. Type an existing Windows user name to access the given machine in the **User** field, using one of the following patterns:
   - `[Domain]\[Username]` or `username@domain` when the target computer and username are part of a domain.
   - `[ComputerName]\[Username]` or `username@compurtername` when username is a local user account on the target computer.
5. Type the Windows password corresponding to this user name in the **Password** field.
6. Click **OK**.

The network drive is mapped to a drive letter, and is now available in the drive tree structure.

To disconnect the network drive, select it, click the – symbol at the top of the drive tree structure and confirm the disconnection.

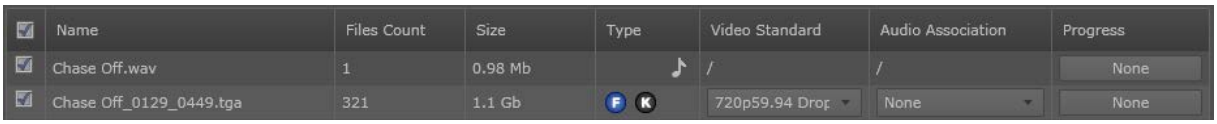
5.3 SELECTING AND IMPORTING SOURCE FILES

Once the drives containing the source files are available in the drive tree structure, you can easily select the requested sources files and import them.

Once imported the source files are stored onto the archive disk, so that they will still remain available for future use.

5.3.1 SOURCE FILE LIST

The source files available in the folder selected in the drive tree structure are displayed in the source file list, on the right hand of the Import area:



This list allows you to select the files that you will import using the **Direct Online** or the **Import** button. For more information on importing files, refer to the section 5.3.3 'How to Import Files on the GX Server', on page 30.

When a source file has already been imported onto the GX server, the corresponding row is dimmed in the Source File list.

5.3.2 FIELDS IN THE SOURCE FILE LIST

The list of source files provides the following information. The field values are not editable, unless otherwise is stated in the table.

Field Name	Description	Values
Name	Name of the audio file or the graphic file sequence.	A graphic file sequence follows the pattern: `[name][first file number]…[last file number].[extension]` An audio file follows the usual pattern: `[name].[extension]`
File Count	Number of files in the file sequence.	The value will be '1' for audio files.
Size	Size the file or file sequence takes up on the drive.	The value is expressed in Mb or GB.
Type	Type of the file.	The values can currently be 'Audio' , or 'Fill & Key' .

Field Name	Description	Values
Video Standard	Video standard used in the graphic file sequence. Not applicable to audio files. When a video standard can have two different field rates, you can select another field rate than the default one.	The value for video sequences can be one of these: • SD PAL • SD NTSC DF or NDF • 1080i 50Hz • 1080i 59.94Hz DF or NDF • 720p 50Hz • 720p 59.94Hz DF or NDF
Audio Association	Select from the list the audio file you want to associate to the graphic file sequence.	The audio files available in the drop-down field are: • Audio files already copied to the Raw Materials drive • Audio files selected to be copied to the Raw Materials drive
Progress	Progress bar to show the progress of the copy to the Raw Materials drive	The progress bar displays: • The percentage of the file that has already copied during the import process • 'Completed' once the import process is finished. • 'None' when the file has not been imported last. • 'Error' if there was an error during the import. The tooltip provides information on the given error.

5.3.3 HOW TO IMPORT FILES ON THE GX SERVER

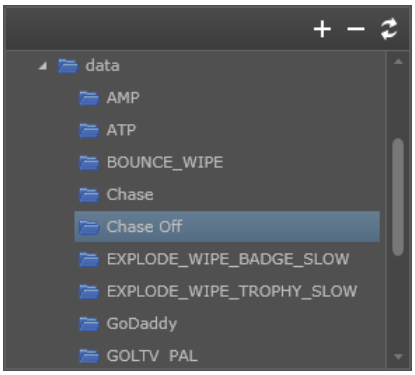
During the import process, the selected files are imported to the Raw Materials drive of the GX server.

Note

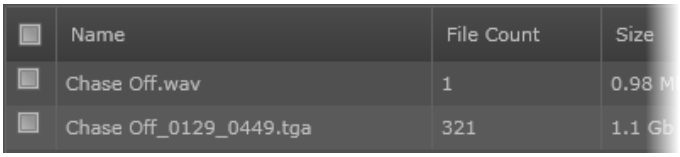
Using the **Direct Online** import option, you can also upload the files directly to the GX Clips drive with predefined playout settings. In this case, they would directly be ready for playout.

To import files onto the GX server, proceed as follows:

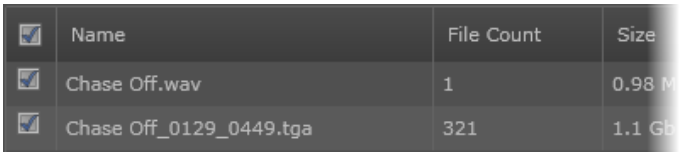
1. In the drive tree structure, select the drive and folder that contains the source files to import.



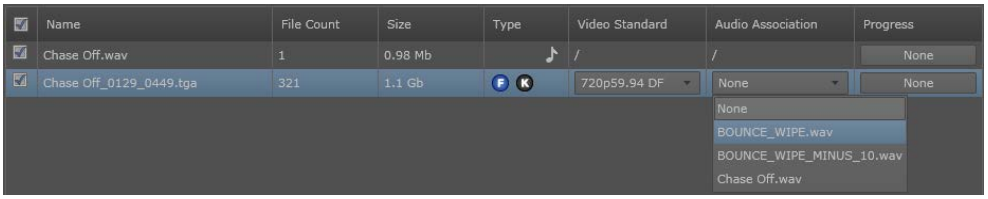
The source files are displayed in the source file list.



2. Select the files to import in one of the following ways:
   - To select all displayed files, tick the top check box in the list.
   - To select individual files, tick the check box in front of each file you want to import



3. If you want to associate an audio file to a video file, click the down arrow in the Audio Association column in the row corresponding to the video file, and select the requested audio file.



The audio file you want to associate must have been imported or selected for import to appear in the list of available audio files.

4. Import the selected files in one of the following ways:
   - Click the **Import** button to import the file(s) solely to the Raw Materials drive.
   - Click the **Direct Online** button to import the file(s) to the Raw Materials drive and to the GX Clips drive (with predefined settings detailed in the section 'Import Results').

During the import process, a progress bar displays in real time the progress of the copy process to the Raw Materials drive.

Note

If the import of a source file does not succeed, an error message is displayed in the Progress column. The error message tooltip provides information on the error.

5.3.4 IMPORT RESULTS

NORMAL IMPORT

In case of normal import, the files are only imported to the Raw Materials drive, not to the GX Clips drive.

You then need to prepare the GX clip before uploading it to the GX Clips drive. For more information refer to the section 5.4 'Managing GX Clips', on page 37.

DIRECT ONLINE IMPORT

In case of a direct online import, the files are directly created as GX files with predefined settings and uploaded to the GX Clips drive.

The following predefined settings are applied in this import method:

- The first frame in the video sequence will be used as the IN point.
- The last frame in the video sequence will be used as the OUT point.
- There will be no audio delays applied to the sequences.
- There will be no loop values: the clip will be set to play once.
- Where audio associations are required, they must be set on each individual clip.

5.3.5 DISPLAY OF IMPORTED ELEMENTS ON THE USER INTERFACE

RAW MATERIALS TAB

Both import methods have the following impact on the Raw Materials tab:

- A new row is added on the Raw Materials tab for each newly imported video or audio element.

  For more details, see also the section 5.3.6 'Raw Materials Tab', on page 33.

- The progress bar in a row displays the status 'Completed' after the element has been successfully imported.

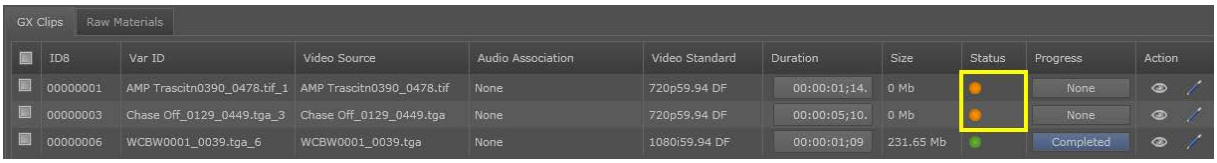
  This status is reset to 'None' for files that were not imported last.

GX CLIPS TAB

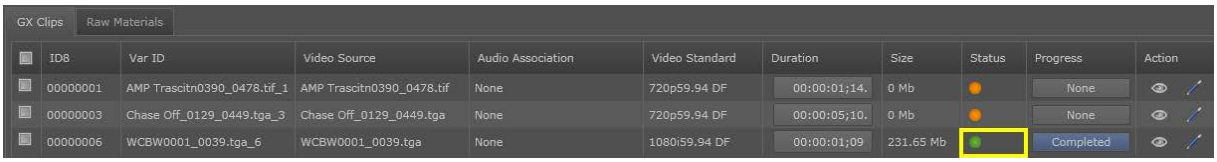
For each imported graphic file sequence, whatever the import method, a new row corresponding to a new GX clip is added on the GX Clips tab.

During the import, the status of the GX clip is grey. This means the clip is being imported.

After a normal import, the status of the GX clip is orange. This means the clip has been defined in the GX server database, but has not yet been uploaded onto the GX Clips drive.

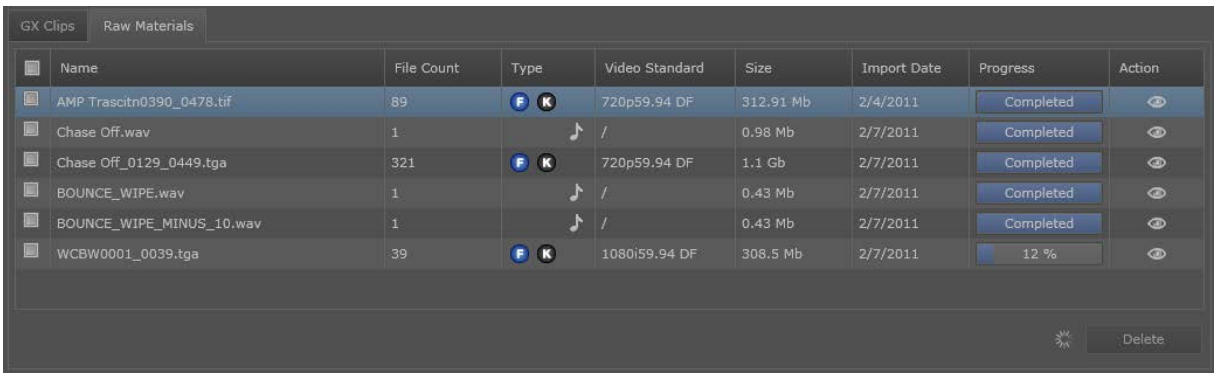


After a Direct Online import, the status of the GX clip is green. This means the clip has been defined in the GX server database, and uploaded onto the GX Clips drive. It is ready for playout.



5.3.6 RAW MATERIALS TAB

The Raw Materials tab shows the audio and video material available on the Raw material drive. The Raw Materials drive should be seen as an archive drive where all the source files are stored and directly available for (re)use.



A new row is added on the Raw Materials tab for each audio or video element imported to the Raw material drive. If an audio file is associated with several Fill & Key files, the audio file will be imported once, and will appear once in the Raw Materials tab.

5.3.7 FIELDS IN THE RAW MATERIALS TAB

The Raw Materials tab provides the following information on the material available on the Raw Materials drive. The field values are not editable.

Field Name	Description	Values
Name	Name of the audio file or the graphic file sequence.	A graphic file sequence follows the pattern: `[name][first file number]…[last file number].[extension]` An audio file follows the usual pattern: `[name].[extension]`
File Count	Number of files in the file sequence.	The value will be '1' for audio files.
Type	Type of the file.	The values can currently be 'Audio' , or 'Fill & Key' .
Video Standard	Video standard used in the graphic file sequence. Not applicable to audio files. When a video standard can have two different field rates, you can select another field rate than the default one.	The value for video sequences can be one of these: • SD PAL • SD NTSC DF or NDF • 1080i 50Hz • 1080i 59.94Hz DF or NDF • 720p 50Hz • 720p 59.94Hz DF or NDF
Size	Size the audio or video file on the Raw Materials drive.	The value is expressed in Mb or GB.
Import Date	Date (defined on the GX server) where the audio or video file was imported	The import date is the date when the material was imported to the Raw Materials drive.
Progress	Progress bar to show the progress of the copy to the Raw Materials drive	The progress bar displays: • The percentage of the file that has already copied during the import process • 'Completed' once the import process is finished. • 'None' when the file has not been imported last. • 'Error' when there has been an error in the import process. The tooltip provides information on the given error.

Field Name	Description	Values
Action	Displays icons corresponding to possible actions on the raw material: • : preview the raw material	

5.3.8 DELETING A FILE FROM THE RAW MATERIALS DRIVE

Important

You should always delete the files stored on the Raw Materials drive from the GX web interface, never from Windows Explorer.

PROCEDURE

To delete one or more files from the Raw Materials drive, proceed as follows:

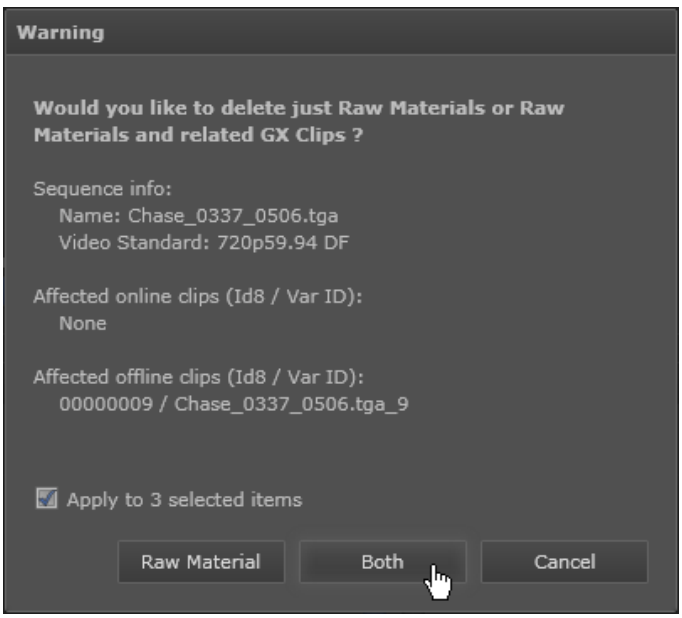
1. Click the Raw Materials tab in the Manage area of the main window.

   The files stored on the Raw Materials drive are displayed.

2. Select the files to delete in one of the following ways:
   - To select all displayed files, tick the top check box in the list.
   - To select individual files, tick the check box in front of each file you want to delete

3. Click **Delete**.

   A message similar to the following one is displayed to request precisely what you want to delete:


Warning
Would you like to delete just Raw Materials or Raw Materials and related GX Clips ?
Sequence info:
Name: Chase_0337_0506.tga
Video Standard: 720p59.94 DF
Affected online clips (Id8 / Var ID):
None
Affected offline clips (Id8 / Var ID):
00000009 / Chase_0337_0506.tga_9
Apply to 3 selected items
Raw Material
Both
Cancel

4. Select what you want to delete in one of the following ways:
   - Click **Both** to delete both the source file on the Raw Materials drive, the GX clips entry in the database, and the related GX clip.
   - Click **Raw Material** to delete only the source file on the Raw Materials drive. For more information on this action, refer to the 'Results' section, on page 36.
5. If you want to apply the same Delete action to the other selected files, tick the check box **Apply to X selected items**.

RESULTS

Deleting Video Raw Material Only

Deleting **only** the video raw material corresponding to an online GX clip will however impact the GX clip in the following way:

- If the GX clip is **offline**, it is automatically deleted.
- If the GX clip is **online**, it remains available as long as it is online but will be deleted as soon as it will be taken offline.

Deleting Audio Raw Material Only

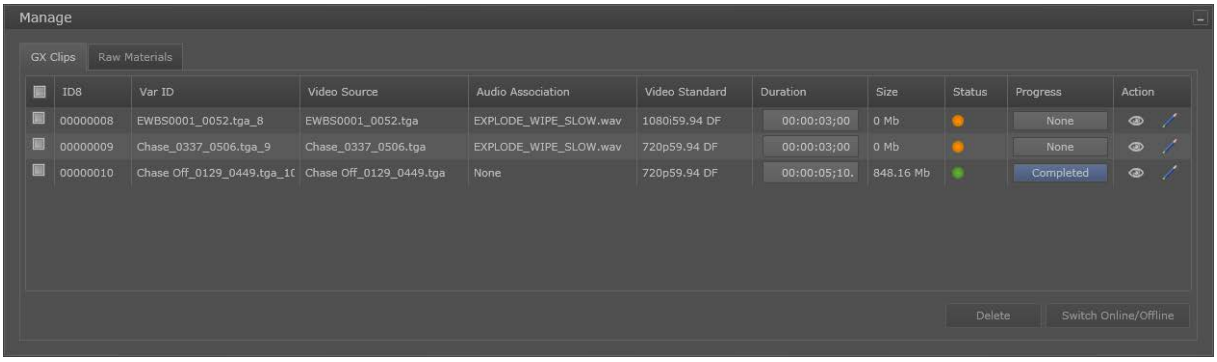
Deleting **only** the audio raw material included in one or more GX clips will impact the GX clip(s) in the following way:

- If the GX clip is **offline**, the audio association is automatically removed from the GX clip.
- If the GX clip is **online**, the audio element will be removed from the GX clip as soon as the associated GX clip will be taken offline.

5.4 MANAGING GX CLIPS

5.4.1 GX CLIPS TAB

The GX Clips tab shows the GX clips defined in the GX server database, information on the GX clips and on their upload status on the GX Clips drive.



For each new graphic file sequence imported to the Raw Materials drive, a new entry for a GX clip is created in the GX server database.

As a consequence, a new row is added on the GX Clips tab for this video source, to allow users to associate an audio file to the video and define playout parameters for the GX clip.

5.4.2 FIELDS IN THE GX CLIPS TAB

The GX Clips tab provides the following information on the material available on the GX Clips drive. The field values are not editable.

You can edit the GX clip parameters in the Edit GX Clips window. For more information, refer to the section 5.5.2 'Editing GX Clips Parameters', on page 44.

Field Name	Description	Values
Id8	8-character ID presented to a VDCP client when it obtains a list of GX clips.	It is generated by incrementing by 1 the Id8 of the last file imported to the Raw Materials drive.
IdVar	Variable length ID (up to 32 characters) presented to protocol clients that are able to view longer IDs.	It is generated based on the following pattern: `[original file name][first file number]_[final file number].[file extension]_[ID]`.
Video Source	Name of the video raw material used in the GX clip	It follows the pattern below: `[name][first file number]…[final file number].[extension]`

Field Name	Description	Values
Audio Association	Name of the associated audio raw material	If no audio file is associated, 'None' is displayed. If an audio file is associated, the audio file name is displayed.
Video Standard	Video standard used in the GX clip.	The value for video sequences can be one of these: • SD PAL • SD NTSC DF or NDF • 1080i 50Hz • 1080i 59.94Hz DF or NDF • 720p 50Hz • 720p 59.94Hz DF or NDF
Duration	Shows the protocol duration of the GX clip, this means the duration of the GX clip as it will be displayed to the protocol clients. The duration will depend on the following elements: • IN point • OUT points • Number of loops • Loop duration	The duration is expressed in HH:MM:SS;ff.
Size	Size the GX clip on the GX Clips drive.	The value is expressed in Mb or GB. When the GX clip is not uploaded onto the GX Clips drive, the value is 0 Mb.
Status	Gives the status of the GX clip on the server.	Four statuses are possible: : The GX clips are queued to be put online in a Direct Online process. : The GX clip is offline. This means it is defined in the GX server database, but not yet uploaded on the GX Clips drive. : The GX clip is online. This means it is defined in the GX server database and uploaded on the GX Clips drive. : The original files used in the GX clip are being imported to the Raw Material drive.

Field Name	Description	Values
Progress	Progress bar to show the progress of the upload to the GX Clips drive	The progress bar displays: • Which percentage of the file has already copied during the upload process • 'Completed' once the upload is finished. • 'None' when the file has not been uploaded last.
Action	Displays icons corresponding to possible actions on the GX clips: • : preview the GX clip taking into account all defined settings. The elements in the preview are equivalent to the preview in the Edit GX Clip window. • : opens the Edit GX Clip window to edit the GX clip	

5.4.3 SWITCHING GX CLIPS ONLINE OR OFFLINE

PRINCIPLES

Offline GX clips are defined in the GX server database but not yet uploaded on the GX Clips drive. When GX clips are offline, they are fully editable and can be edited in the Edit GX Clips window (See also section 5.5).

When the clips are ready for playout, you need to upload them to the GX Clips drive: this is the process of putting the GX clips online. Only the GX clips imported using the Direct Import option are automatically put online.

Important

Online GX clips only will be visible to the protocol clients when the GX server will be started.

PROCEDURE

To put a GX clip online or to take it offline, proceed as follows:

1. In the GX Clips tab, select the GX clips to be put online/offline
2. Press the Switch online/offline button.

During an upload, the progress bar shows how much of the GX Clip has been copied to the GX Clips drive.

Note

Switching offline a GX clip whose corresponding raw material has been deleted will automatically delete the GX clip.

CONSEQUENCES

When a GX clip is put online, the row corresponding to this GX clip on the GX Clips tab will appear as follows:

- After the upload, the Progress bar displays the 'Completed' status.
- The size of the GX clip on the GX Clips drive will be displayed.
- The status of the GX clip changes from orange to green.

When a GX clip is offline or is taken offline, the row corresponding to this GX clip on the GX Clips tab will appear as follows:

- After the upload, the Progress bar displays the 'None' status.
- The size of the GX clip on the GX Clips drive is back to 0Mb.
- The status of the GX clip changes from green to orange.

5.4.4 DELETING GX CLIPS

Important

You should always delete the files stored on the GX Clips tab from the GX web interface, never from Windows Explorer.

Deleting GX clips from Windows Explorer will result in stranded records in the database, and problems with GX server operation.

DEFINITION

Deleting a GX clip means:

- Deleting the GX clip from the GX Clips drive, as well as its reference from the database

  AND

- Deleting the corresponding raw material from the Raw material drive (if it still exists).

PROCEDURE

To delete one or more GX clips from the GX Clips drive, its reference from the database and the corresponding raw material from the Raw Materials drive, proceed as follows:

1. Click the GX Clips tab in the Manage area of the main window.

   All GX clips defined in the GX server database are displayed in the tab.

2. Select the GX Clips to delete in one of the following ways:
   - To select all displayed GX clips, click the top check box in the list.
   - To select individual GX clips, click the check box in front of each file you want to delete

3. Click **Delete**.

RESULTS

Whatever the GX clip status (online or offline), the GX clip will be removed from the GX Clip drive and from the Raw Material drive. Its reference will be removed from the database.

If the GX clip contains an audio element, the audio raw material is only deleted if it is not associated with another GX clip.

5.5 PREPARING GX CLIPS FOR PLAYOUT

5.5.1 EDIT GX CLIP WINDOW

INTRODUCTION TO THE EDIT GX CLIP WINDOW

In the Edit GX Clip window, you can perform the following actions:

- Preview the fill, key or fill & key tracks of a GX clip
- Monitor the audio track of a GX clip
- Specify the various settings for playing out the GX clip

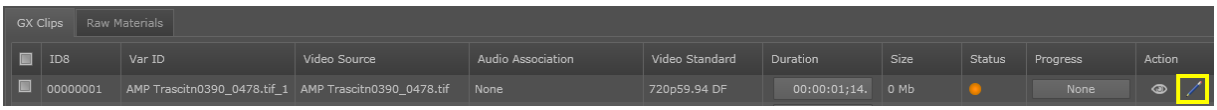
Note

You can only edit the GX clip playout settings as long as the GX clip is offline (not uploaded yet on the GX Clip drive).

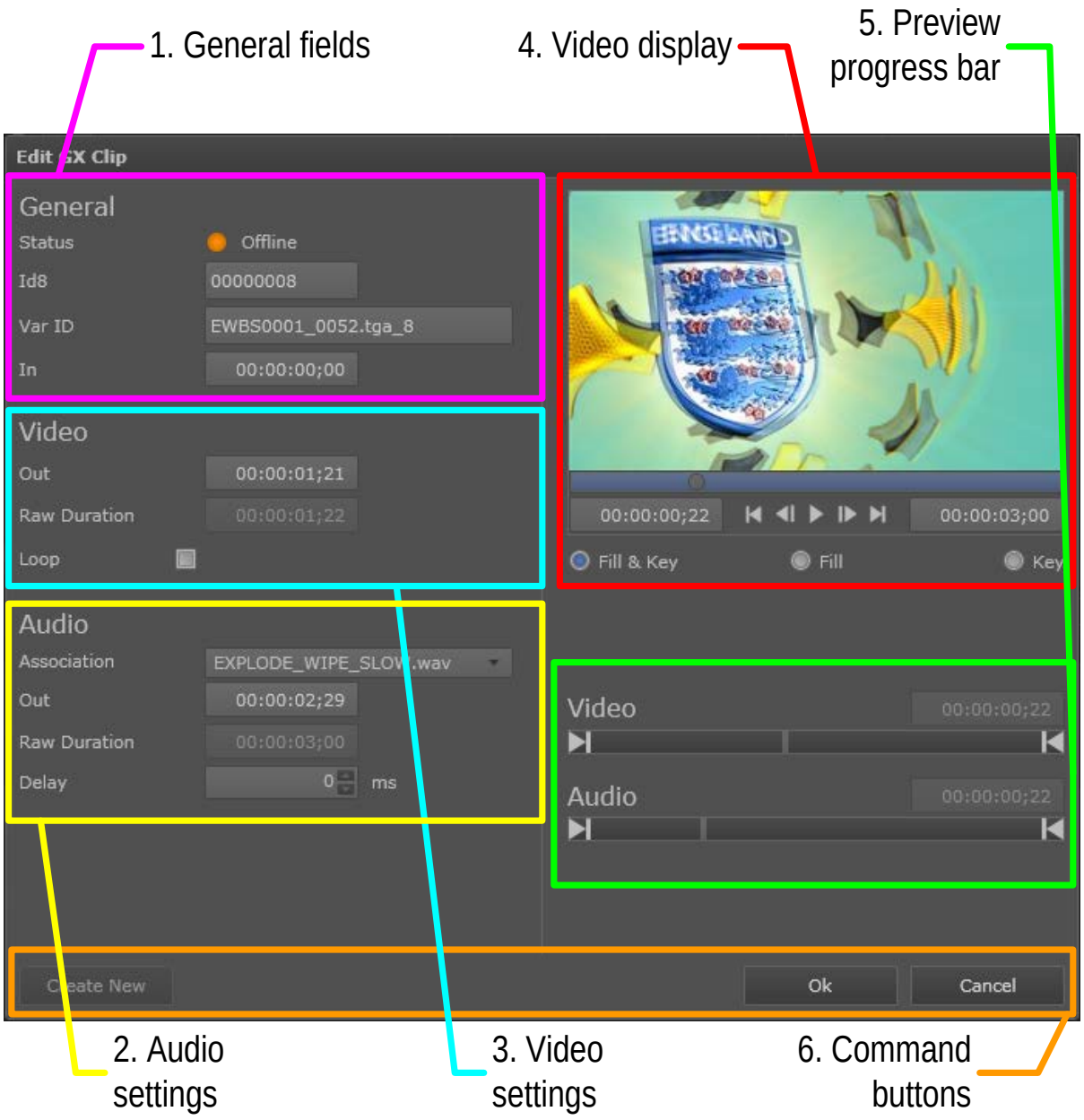
The preview and audio monitoring remain available whatever the clip status.

ACCESSING THE EDIT GX CLIP WINDOW

You access the Edit GX Clip window by clicking the pen icon , which is highlighted in yellow in the screenshot below. The pen icon is located on the GX Clips tab of the Manage area of the GX web interface.



OVERVIEW OF THE EDIT GX CLIP WINDOW



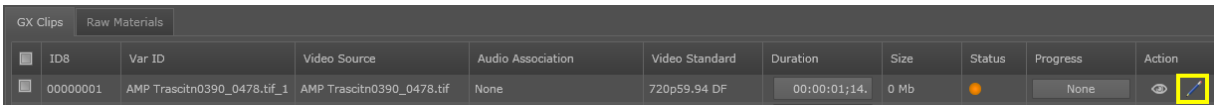
#	Zone Name	Description	See also …
1.	General fields	General information on the GX clip	Section 5.5.4
2.	Video settings	Video settings for the GX clip playout	Section 5.5.5
3.	Audio settings	Audio settings for the GX clip playout	Section 5.5.6
4.	Video preview	Display and commands to preview the video fill, key or fill & key tracks of the GX clip	Section 5.5.7 & 5.5.8
5.	Preview progress bars	Bar to show the progress of the video or audio preview being played	-

#	Zone Name	Description	See also …
6.	Command buttons	Command buttons to validate or cancel the video or audio settings, or even save them as a profile	Section 5.5.8

5.5.2 EDITING GX CLIPS PARAMETERS

WHERE?

The GX clips' parameters can be modified from the Edit GX Clip window. You can access this window by clicking the pen icon in the row that corresponds to the clip you want to edit in the GX Clips tab.



Important

You can edit GX clip parameters as long as the status of the corresponding GX clip is offline (the clip only exists in the database, but has not yet been uploaded on the GX Clip drive).

The values you have edited in the Edit GX Clip window are only validated as you press OK to leave the window.

HOW TO EDIT A TIMECODE FIELD?

You need to take the following rules into account when you edit a timecode field.

How to Edit the Whole Timecode Field

To enter a value for the whole timecode, proceed as follows:

1. Click once the requested timecode field.

   The whole timecode is selected.

2. Type all digits of the requested timecode value, without separators, from the hours to the frames.

3. Press ENTER to validate the change, or ESC to cancel it.

The defined timecode is displayed with the separators:

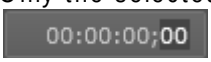
If the timecode you have typed is not valid, the original value is kept.

How to Edit Two Digits of a Timecode Field

To enter a value for only two digits of a timecode field, proceed as follows:

1. Double-click the two digits in the timecode field you want to modify.

   Only the selected digits in the timecode are highlighted.

2. Type the digit from left to right.

   If you type more than two digits, you will jump to the next two digits on the right.

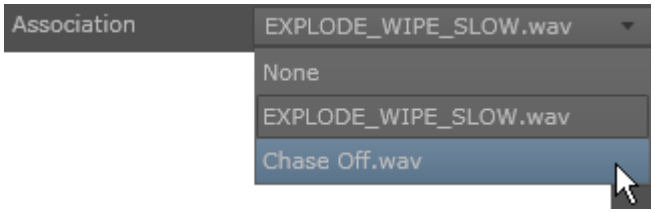
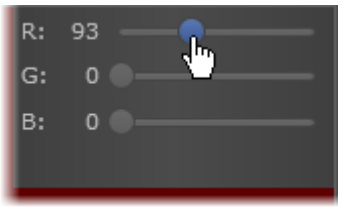
3. Press ENTER to validate the change, or ESC to cancel it.

The updated timecode is displayed.

If the timecode you have typed is not valid, the original value is kept.

POSSIBLE EDITING ACTIONS?

In order to …	Do the following …
Modify the IN point of a GX clip (for both video and audio tracks)	Enter the requested TC in the IN field in the General section, and press ENTER. By default, the IN point of the GX clip is the first frame of the imported video sequence, and corresponds to the timecode 00:00:00:00. The IN point can never be after the OUT point or the loop point. See also the section 'In Field', on page 48.
Modify the OUT point of the video or audio in the GX clip	Enter the requested TC in the OUT field of the Video or Audio section, and press ENTER. See also the section '(Video) Out Field', on page 49 and '(Audio) OUT Field', on page 51.
Define a loop on the whole GX clip (from TC IN to video TC OUT)	Tick the check box after the Loop field and type the number of loops for the GX clip. The loop point corresponds to the TC IN by default. During playout, when the clip reaches its OUT point, it will loop back to the IN point as many times you have defined. See also the section '(Video) Loop Fields', on page 50.

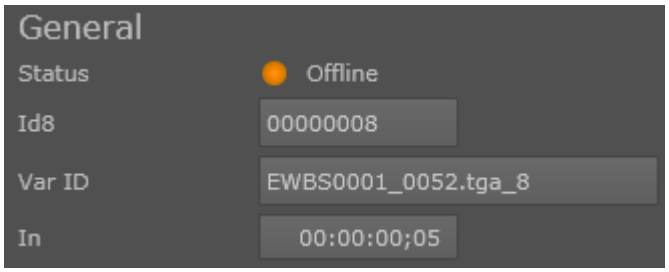
In order to …	Do the following …
Define a loop on a portion of the video track of the GX clip	Tick the check box after the **Loop** field, type the timecode of the loop point and type the number of loops for the GX clip. During playout, when the clip reaches its OUT point, it will loop back to the loop point as many times you have defined. The loop point has to be defined between the IN and OUT points. See also the section '(Video) Loop Fields', on page 50.
Associate an audio track to the video track of the GX clip	Click the drop-down list box and select an audio track from the list. The list displays all audio tracks saved on the Raw Materials drive. 
Define a delay (in msec.) in the audio playout	In the **Delay** box, type or select the number of milliseconds' delay you want to apply to the audio track. The delay can be positive or negative. See also the section '(Audio) Delay Field', on page 52.
Define a background color for GX clip preview	Move the mouse pointer to the video display and click the icon in the upper right corner to display the RGB scales: Then move the sliders for the red (R), green (G) and blue (B) scales to define the requested background color:  The color on the video display is automatically adapted to the RGB settings defined.

5.5.3 General Principles About TC Fields on the GX Server

The following general principles are applicable to the various IN, OUT, TC fields and other fields displayed in the Edit GX Clip window and the GX Clips tab:

- The IN and OUT points, and other TC-related fields defined as general, video and audio settings for the GX clip refer to the timecodes defined on the raw materials. In other words, the reference timecode is always TC 00:00:00:00 of the raw material.
- The start timecode of the GX clip as it is played out and displayed to the external controllers is always 00:00:00:00.
- All frames of a GX clip are played out. In other words, a GX clip that lasts 2 seconds will be played from TC 00:00:00:00 to TC 00:00:01:24 (for 50Hz clips) or TC 00:00:01:29 (for drop-frame 60Hz clips) if the corresponding raw material is played out from start to end.
- The GX clip length corresponds to the length of the longest raw material (either audio or video), including possible loops.

5.5.4 General Settings in the Edit GX Clips Window



Important

When you modify a field value in the Edit GX Clip window, you always need to press ENTER to validate the change.

Status Field

The **Status** field gives the status of the GX clip on the server. The possible statuses in the Edit GX Clip window are:

- Offline

  The GX clip is defined in the database, but is not uploaded on the GX Clips drive.
- Processing

  The GX clip is defined in the database, and is being uploaded on the GX Clips drive to be ready for playback.
- Online

  The GX clip is defined in the database, and uploaded on the GX Clips drive.

ID8 FIELD

The Id8 field provides the 8-character ID presented to a VDCP client when it obtains a list of GX clips.

It is generated by incrementing by 1 the Id8 of the last file imported to the Raw Materials drive.

IDVAR

The IdVar field provides the variable length ID (up to 32 characters) presented to protocol clients that are able to view longer IDs.

It is generated based on the following pattern: `[original file name][first file number]_[final file number].[file extension]_[ID]`.

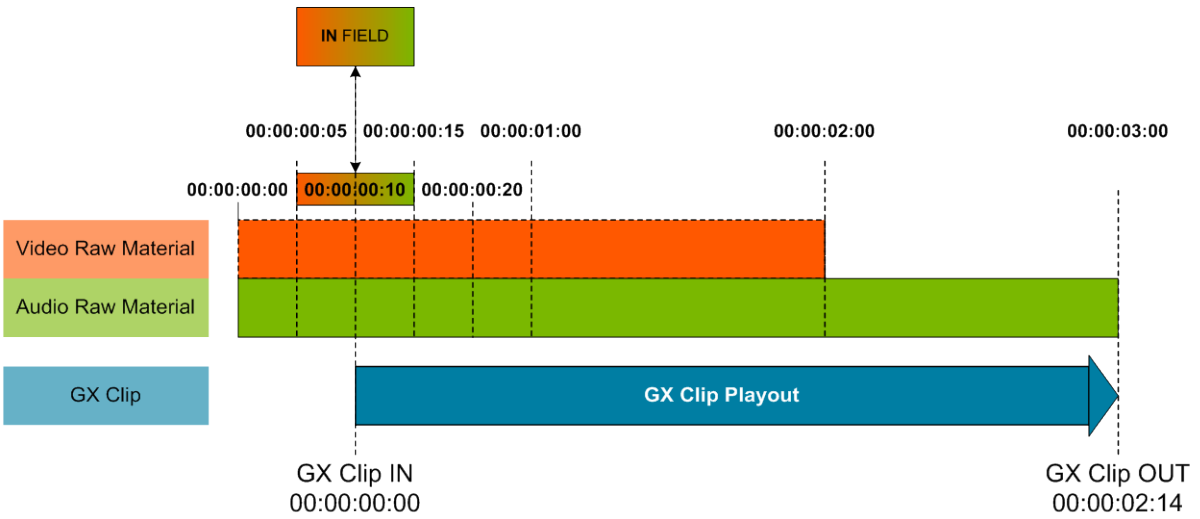
IN FIELD

The IN field gives the timecode, on the raw materials, at which the GX clip should start. This is applied to both the video and audio tracks.

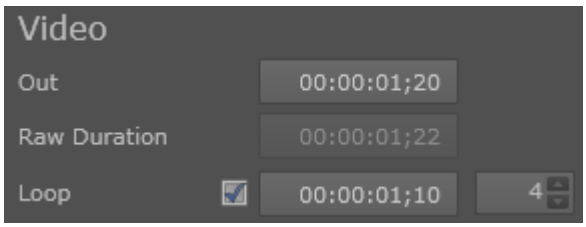
The reference timecode (00:00:00:00) corresponds to the beginning of the corresponding video and audio raw materials.

Example

If the IN field value is 00:00:00:10, this means both video and audio tracks of the GX clip will start playing 10 frames after the start of the raw material.



5.5.5 VIDEO SETTINGS IN THE EDIT GX CLIPS WINDOW



Note about the examples

The frame rate used in the examples below is 50i (25 f/sec).

The schemas in the examples show the field values as defined on the raw materials, and the corresponding TC values of the GX clip that will be displayed to external controllers.

(VIDEO) OUT FIELD

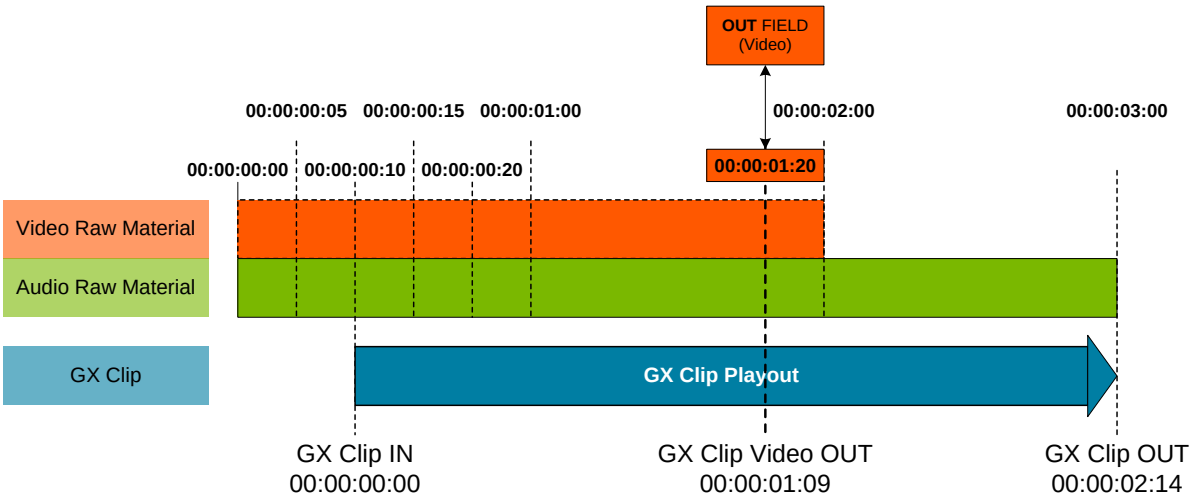
The video OUT field gives the timecode, on the video raw material, at which the GX clip should end.

The reference timecode (00:00:00:00) corresponds to the beginning of the video raw material.

Example

In this example, the video raw material used for the GX clip is 2 seconds. The IN field is 00:00:00:10. The video OUT point defined for the GX clip is on TC 00:00:01:20 of the corresponding raw material.

This means the video track of the GX clip will be played out from TC 00:00:00:10 up to TC 00:00:01:20 of the video raw material.



(VIDEO) RAW DURATION FIELD

The video **Raw Duration** field gives the total duration of the video raw material used in the GX clip. This field is not editable.

This duration does *not* take into account the following elements:

- the start timecode for the GX clip, defined in the **IN** field
- the end timecode for the video track of the GX clip, defined with the Video **OUT** point
- the loops defined (number of loops and loop length).

(VIDEO) LOOP FIELDS

Loop Check Box

The **Loop** check box needs to be ticked when the video track or part of it should be played out in loop.

When you tick the check box, two additional fields are displayed:

- The timecode at which the loop starts (Loop Point).
- The number of times the loop is performed (Loop Recurrence).

Loop Point Field

The **Loop Point** field allows users to specify the timecode in the video raw material at which the loop will start. The loop will always be performed from that point to the Video **OUT** field.

The GX server will perform a nested loop if the loop point is set to anything other than the IN frame.

Loop Recurrence Field

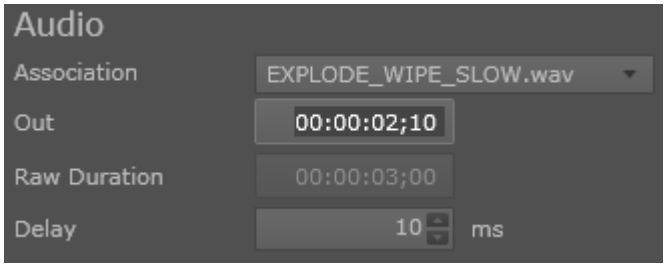
The **Loop Recurrence** field allows users to specify how many times the loop of the will be performed during playout.

When a loop recurrence is defined, the total duration of the GX clip specified below the video display is automatically adapted.

Note

You will find an example on loops in the section 5.5.9 'GX Clip Duration and Timecodes', on page 57.

5.5.6 AUDIO SETTINGS IN THE EDIT GX CLIPS WINDOW



Note about the examples

The frame rate used in the examples below is 50i (25 f/sec).

The schemas in the examples show the field values as defined on the raw materials, and the corresponding TC values of the GX clip that will be displayed to external controllers.

(AUDIO) ASSOCIATION FIELD

The audio **Association** field allows you to select the audio file to associate to the video raw material.

The audio files available in the drop-down field are:

- Audio files already copied to the Raw Materials drive
- Audio files selected to be copied to the Raw Materials drive

(AUDIO) OUT FIELD

The audio **OUT** field gives the timecode, on the audio raw material, at which the GX clip should end.

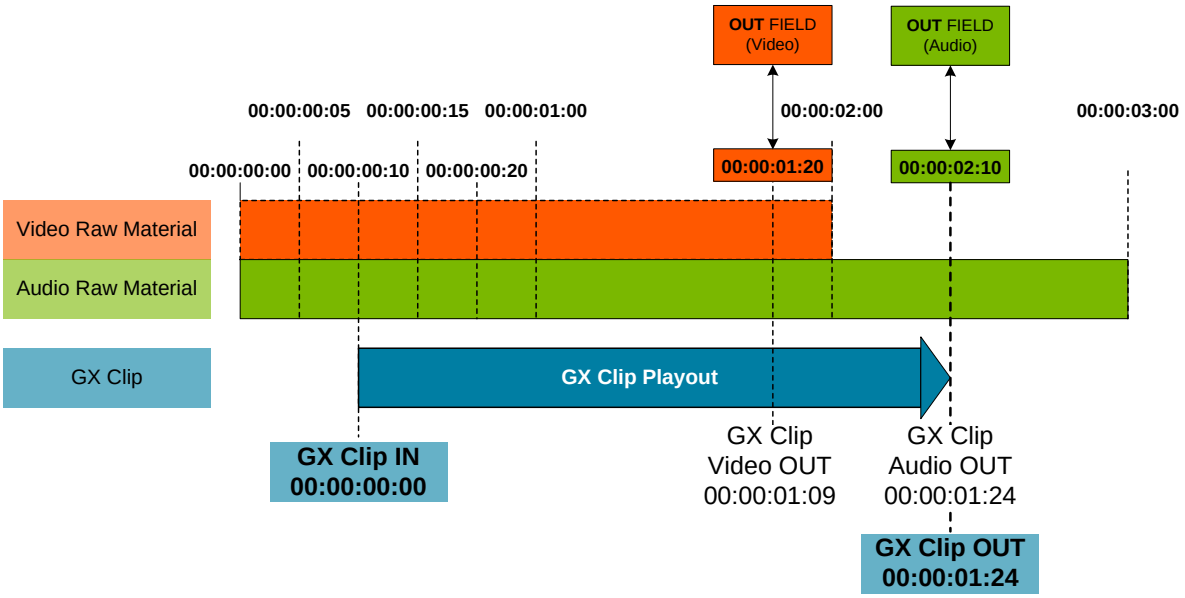
The reference timecode (00:00:00:00) corresponds to the beginning of the audio raw material.

Example

In this example, the audio raw material used for the GX clip is 3 seconds. The IN field is 00:00:00:10. The audio OUT point defined for the GX clip is on TC 00:00:02:10 of the corresponding raw material.

This means the audio track of the GX clip will be played out from TC 00:00:00:10 up to TC 00:00:02:09 of the audio raw material.

In the example, the audio track defines the length of the GX clip since it is the longest track.



(AUDIO) RAW DURATION FIELD

The audio **Raw Duration** field gives the total duration of the audio raw material used in the GX clip. This field is not editable.

This duration field does *not* take into account the following elements:

- the start timecode for the GX clip, defined in the IN field
- the end timecode for the audio track of the GX clip, defined with the audio OUT point

(AUDIO) DELAY FIELD

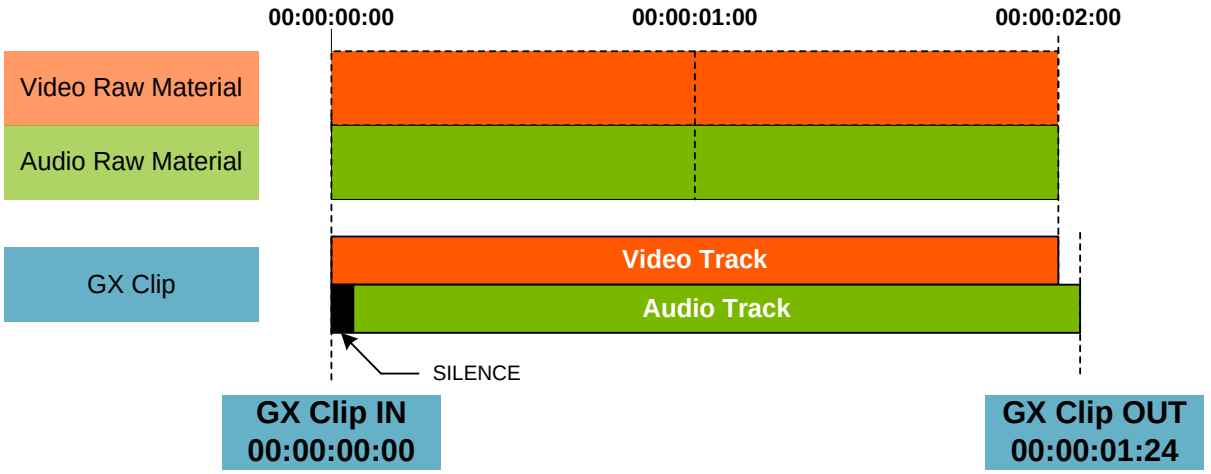
The audio **Delay** field gives the delay in the playout, in ms, applied to the audio track. The delay can be positive or negative. Examples are provided for positive and negative delays.

Positive Delay

If the delay is positive (this means the audio track starts after the video track), silence matching the delay duration will be inserted before the start of the audio track.

Example

In the following example, a positive delay of 10 milliseconds has been defined. Silence will be added from the GX Clip IN point for the length of the delay. The audio track will then be played normally until the audio track OUT point.



Note

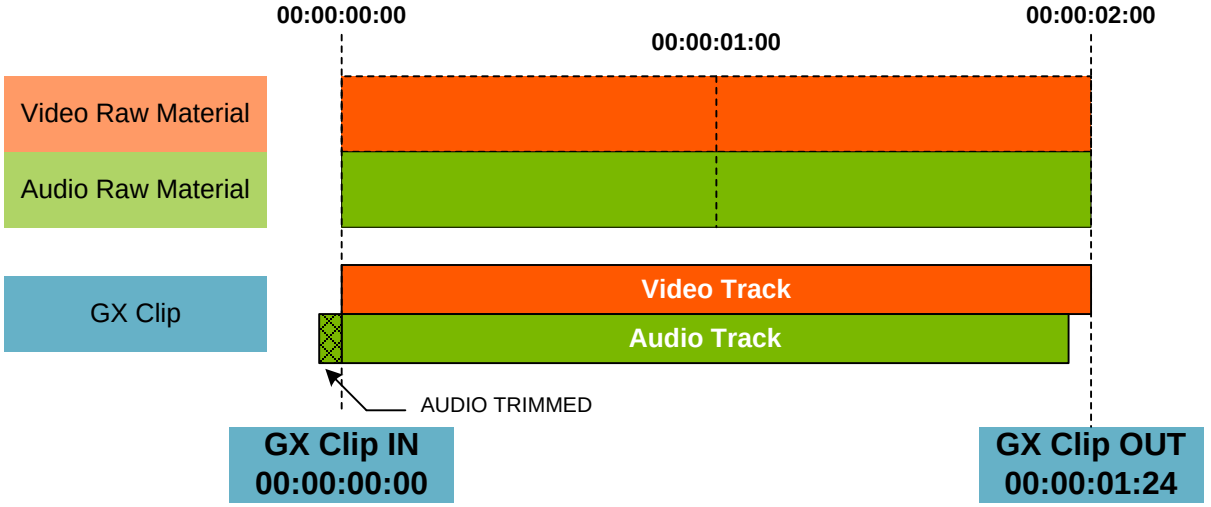
Possible IN and OUT points defined on the audio track are taken into account.

Negative Delay

If the delay is negative (this means the audio track starts before the video track), the start of the audio will be trimmed.

Example

In the following example, a negative delay of 10 milliseconds has been defined. In other words, the first 10 milliseconds of the audio track are trimmed and the rest of the audio track will then be played normally from the IN point until the audio track OUT point.



5.5.7 CLIP PREVIEW IN THE EDIT GX CLIP WINDOW

VIDEO DISPLAY

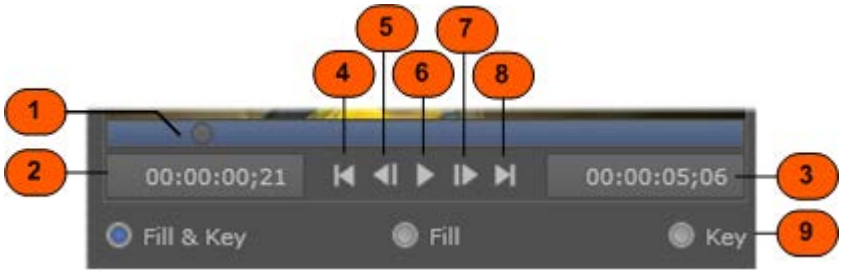
The video display makes it possible to preview the fill element, key element or combined fill & key elements, depending on the radio button you select below the video display.

The preview will fill the preview screen for 16x9 clips.

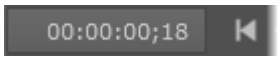
The preview of 4:3 clips will display black stripes on the left and right of the video.

PREVIEW CONTROL COMMANDS

The following fields and play commands are available below the video display:



#	Field/Button	Description
1.	Progress/Scrub bar	The bar below the video display serves two purposes: • The bar (progress bar) is gradually filled with a blue background that shows how much of the clip has been loaded ready for playback:

#	Field/Button	Description
		• As you preview the GX clip, the marker shows the current position in the GX clip. Dragging the bullet, you can also scrub along the clip to preview it.
2.	Current TC 	Shows the timecode of the current position in the GX clip preview. The GX clip always starts at 00:00:00:00.
3.	Total Duration 	Shows the protocol duration of the GX clip, this means the duration of the GX clip as it will be displayed to the protocol clients. The duration will depend on the following elements: • IN point • OUT points • Number of loops • Loop duration For more information, refer to the section 5.5.9 'GX Clip Duration and Timecodes', on page 57.
4.	Go to IN	Recues to the IN point of the GX clip. If the IN point is higher than 00:00:00:00, it is not possible to preview before then IN point unless the user changes the IN point.
5.	Previous Frame	Goes to the previous frame relative to the current position.
6.	Play/Pause	Plays from or pauses at the current position. This is a Play/Pause toggle button. If you press this button at the end of the clip, the clip will recue.
7.	Next Frame	Goes to the next frame relative to the current position.
8.	Go to OUT	Goes to the OUT point of the GX clip.
9.	Video Track Selection	Radio buttons that allow selecting which video element you want to preview (fill, key or fill & key):

VIDEO AND AUDIO BARS

The video and audio bars represent the playback position in the corresponding raw material.

The bars and the displayed elements have the following meaning:

- The bars represent the raw material.
- The sign represents the IN point. It will be positioned relative to the IN field value in the raw material.
- The sign represents the OUT point. It will be positioned related to the OUT field values (separate fields for audio and video) in the raw material.
- The black vertical marker represents the loop point.
- The grey vertical marker represents the current position in the raw material during playback.

Note

If the GX clip contains a nested loop (the loop point does not start on the TC IN point), the playback marker will move between the IN and OUT points for the first pass. Then, for each nested loop, the marker will just move through the area between the loop point and the OUT point.

5.5.8 COMMAND BUTTONS IN THE EDIT GX CLIP WINDOW

Button	Description
Create New	Allows users to save the clip currently being edited as a new clip, when a new IdVar and Id8 have been defined.
OK	Saves and validates the general, video and audio settings defined.
Cancel	Discards all modifications performed on general, video and audio settings, and returns back to the settings defined when the user opened the window.

5.5.9 GX CLIP DURATION AND TIMECODES

PURPOSE

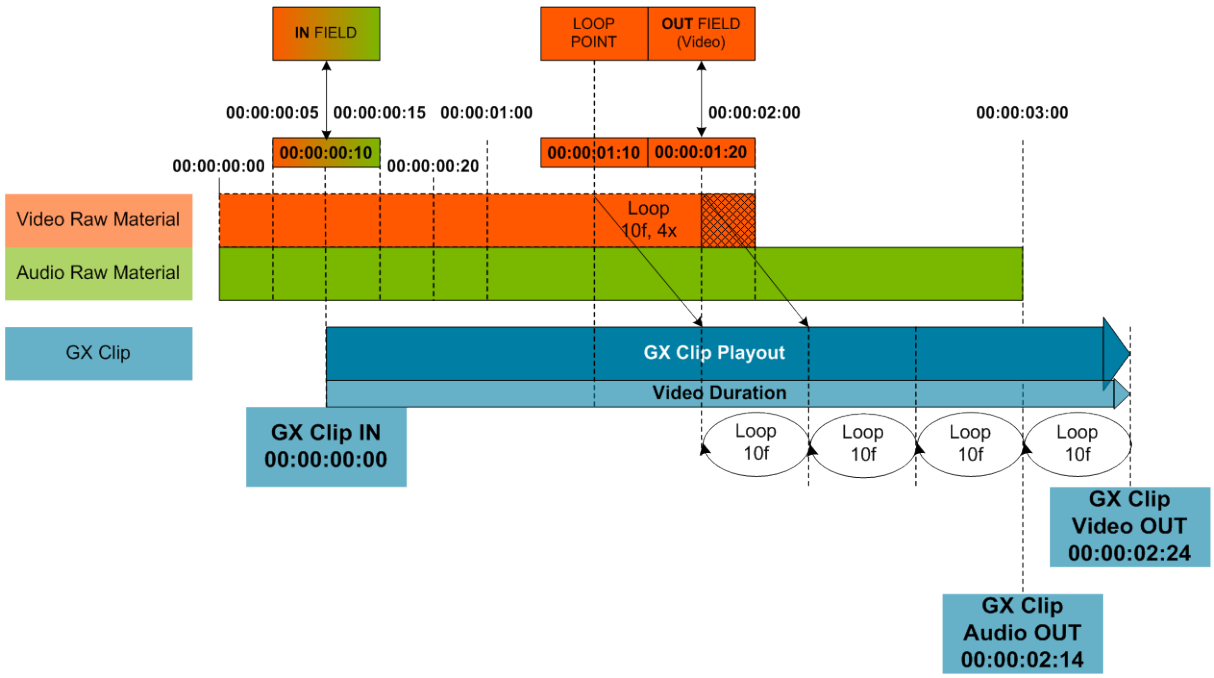
Based on an example, this section explains how:

- The protocol duration is calculated
- The timecodes of the GX clip are displayed, compared to the timecode of the raw materials.

EXAMPLE

In the example, the following settings have been defined:

- The video raw material is 2 seconds. The audio raw material is 3 seconds
- The GX clip starts at TC 00:00:00:10 of the video and audio raw material (IN field = 00:00:00:10).
- The GX clip stops at TC 00:00:01:20 of the corresponding video raw material (OUT field = 00:00:01:20).
- A loop is defined on the video track from the loop point 00:00:01:10 to the video OUT point of the GX clip. The loop should be played 4 times.



Last Frame of Video and Audio Tracks

The last frame of the **video track** can be calculated as follows:

00:00:01:20 + 00:00:00:10*4 (4 loops) – 1f = 00:00:03:04.

As an IN field is defined at 00:00:00:10, the last frame of the video track of the GX Clip is 00:00:03:04 – 00:00:00:10 = **00:00:02:24**.

The last frame of the **audio track** of the GX clip is 00:00:03:00 – 00:00:00:10 -1f = 00:00:02:14.

Duration of the Video and Audio Tracks

The duration of the **video track** in the GX clip can be calculated as follows:

(OUT-IN+1)+#loops*(OUT-Loop+1) =

(00:00:01:20-00:00:00:10+1)+4*(00:00:01:20-00:00:01:10+1) =

00:00:01:11+(00:00:00:11)*4 = 00:00:01:11+00:00:01:19

00:00:03:05

Duration of the GX Clip

The GX clip length always has the length of the longest track:

- Without the 4 video loops, the GX clip would last 3 seconds since the audio track would be longer than the video track.
- As 4 video loops have been defined, the video track is longer than the audio track.

In this case, the duration of the video track, that is **00:00:03:05**, is the longest one, hence gives the length of the GX clip.

Glossary

Term	Definition
24 bit file	File that contains either the key or the fill images.
32 bit file	File that contains both the key and the fill images.
DF (drop-frame)	Timecode used with NTCS formats having a frame rate of 29.97 fps. As timecode can only be represented by whole numbers, timecode numbers are periodically skipped in drop-frame timecode (no video frames dropped) so that a video frame is always associated with a timecode.
Fill clip	Clip containing the color portion of the video material
GX Clips drive	Solid State Drive (SSD), on the GX server, on which the GX clips are stored and played out.
GX clip	Fill and key clips (with or without embedded audio), that has been uploaded to the GX Clips drive, and is ready for playout. • An **offline** GX clip is a GX clip only defined in the GX server database. • An **online** GX clip is a GX clip defined in the GX server database and uploaded on the GX Clips drive.
Import	Process of copying the material from the removable drive to the Raw Materials drive.
Key clip	Clip containing the matter used to display transparency.
NDF (non drop-frame)	Timecode where every frame of the video has a corresponding timecode number.
Raw material drive	HDD drive, on the GX server, on which the original footage is stored.
Removable drive	Drive from which the media is being imported, connected directly to the GX server via a USB or eSATA connector.
Sequence	Files before they are uploaded to the GX Clips drive
Upload	Process of copying the material from the Raw Materials drive to the GX Clips drive.

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